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The Government of the Philippine Islands
Department of Public Instruction
Philippine Health Service

REPORT OF THE PHILIPPINE HEALTH SERVICE

FOR THE FISCAL YEAR FROM JANUARY 1 TO DECEMBER 31, 1920

Vicente de Jesús, M. D.
DIRECTOR OF HEALTH

MANILA
BUREAU OF PRINTING
1921

181363

THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION
PHILIPPINE HEALTH SERVICE

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LIST OF OFFICERS AND EMPLOYEES OF THE PHILIPPINE HEALTH SERVICE FOR THE CALENDAR YEAR 1920

ACTING DIRECTOR OF HEALTH.

VICENTE DE JESÚS.[1]

ASSISTANT DIRECTOR OF HEALTH.

(Vacant).

COUNCIL OF HYGIENE.

President, FERNANDO CALDERON.
Secretary, LEONCIO LOPEZ-RIZAL.

Members.

1. Tomas Earnshaw.
2. Jose Albert.
3. Anacleto Diaz.
4. Benito Valdez.
5. Gervasio de Ocampo.

Chiefs of Divisions.

1. Salvador V. del Rosario, *Chief, Division of Sanitation, City of Manila.*
2. Eugenio Hernando, *Chief, Division of Sanitation in the provinces.*
3. Jacobo Fajardo, *Chief, Division of Mindanao and Sulu.*

District Inspectors.

1. Florentino Ampil.
2. Rafael Villafranca.
3. Manuel Llora.
4. Gabriel Intengan.
5. Roberto B. de Leon.

Senior Medical Inspectors.

1. Andres Catanjal.
2. Fernando Gonzalez-Sioco.
3. Francisco Lopez-Lubelza.
4. Henry Pick.
5. Jose P. Bantug.
6. Miriam E. Griffin.
7. Vicente Rivera-Sayo.
8. Leoncio Lopez-Rizal.
9. Manuel Gomez.
10. Pacifico Laygo.
11. Vicente Kierulf.
12. Jose Avellana-Basa.

Medical Inspectors.

1. Felipe Arenas.
2. Jose M. Raymundo.
3. Julian Pilares.
4. Manuel M.ª Aycardo.
5. Enrique F. Ochoa.
6. José Guidote.
7. Mariano Atienza.
8. Felino Simpao.
9. Victorino de los Santos.
10. Gabino Vinluan.
11. Manuel Ramirez.
12. Constantino Limjoco.
13. Sulpicio Chiyuto.
14. Bonifacio Mencias.
15. Sixto Y. Orosa
16. Juan S. Fernando.
17. Teofilo Corpus.
18. Francisco Ontañon.
19. Catalino Gavino.

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[1] Dr. Vicente de Jesús was appointed Director of Health, effective November 10, 1920.

Senior Surgeon.

1. Francisco A. Tolentino.
2. Shannon Richmond.
3. Anacleto Dasmariñas.
4. Buenaventura Toribio.
5. Francisco Xavier.
6. Gregorio E. Roque.
7. Severina L. Orosa.
8. Graciano Nolasco.
9. Antonio M. Mañalak.
10. Eufemio Jara.
11. Eusebio Aguilar.
12. Adolfo Aldaba,
13. Eugenio de Jesus.
14. Jose A. Vidal.

Surgeons.

1. Ramon V. Ferrer.
2. Jose Castrillio.
3. Manuel V. Arguelles.
4. Jesus A. Nolasco.
5. Hilario Lara.
6. José Mario Alonzo.
7. Tirso Coronel.
8. Francisco Velez.
9. Jose Arevalo.
10. Nicanor Victoriano.
11. Domingo R. Tablan.
12. Alfonso Raquel.
13. Elias Domingo.
14. Antonio Fernandez.
15. Mariano Crisologo.
16. Luis Lauchengco.

Assistant Surgeons.

1. Samuel Tietze.
2. Canuto Reyes.
3. Vicente Cavanna.
4. Francisco Castañeda.
5. Valeriano Pantoja.
6. Tee Han Kee.
7. Proceso Gabriel.
8. Juan B. Cabarrus.
9. Eliseo Santos.
10. Luis B. Gomez.
11. Antonio Rubin.
12. Guillermo Abaya.
13. Manuel Arambulo.
14. Donato San Juan.
15. Pedro Joven.
16. Ismael Villarica.
17. Aniceto Peñalosa.
18. Miguel Lopez.
19. Jose Alberto.
20. José M. Cariño.
21. Bartolome Gella.
22. José de Leon.
23. Felix Amorsolo.
24. Pio Lauengco.
25. Marcos Corpus.
26. Ildefonso Alcantara.
27. Isabelo D. Mallari.

OFFICE PERSONNEL.

Chief Clerk.

Michael J. Walsh.[1]

Chief Accountant.

Vicente Leogardo.

PROPERTY DIVISION.

Chief.

1. Bertrand D. Burnham.[2]

Assistant Chief.

1. Sofronio Sarmiento.

STATISTICAL DIVISION.

Chief.

1. Manuel Gomez.

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[1] Mr. Walsh retired under Act No. 2589, on December 21, 1920. Mr. Mamerto Tianco was detailed from the Bureau of Audits as Acting Chief Clerk, on November 15, 1920.

[2] Mr. Burnham retired under Act No. 2589, on December 15, 1920. Mr. Eugenio Viana, Superintendent, San Lazaro Hospital was detailed Acting Chief of Property in addition to his duties effective December 10, 1920.

SANITARY ENGINEERING DIVISION.

Sanitary Engineer.

1. Edward L. Barber.

Assistant Sanitary Engineer.

1. Manuel Mañosa.

Draftsmen.

1. Jose Cañizares.
2. Florentino Balbastro.

DISTRICT NURSING DIVISION.

Chief.

1. Carmen R. Leogardo.

Assistant Chief.

1. Jacinta Acena.

Nurses.

1. Patricia Novero.
2. Patricia Mendoza.
3. Servillana H. Borja.
4. Maria Guieb.
5. Josefina Abaya.
6. Gregoria Villanueva.
7. Miguela G. Dayao.
8. Maria Rosario.
9. Petra Fernandez.
10. Irene Francia.
11. Eduvigis Beltran.
12. Paz Buenafe.
13. Justina Racsag.
14. Maria C. Tamondong.
15. Emilia Barros.
16. Juana Penales.
17. Angeles Alvaran.
18. Victoria Taal.

DIVISION OF SANITATION, CITY OF MANILA.

Food Inspector.

1. Warren G. Hogle.

Disinfector.

1. John F. Renner.

Assistant Disinfector.

1. José Caballero.

SAN LAZARO HOSPITAL.

Chief.

1. Andres Catanjal.

Specialist in Nervous and Mental Diseases.

1. Elias Domingo.

Resident Physicians.

1. José Fernandez.
2. Patrocinio Alejandrino.

Internes.

1. Felix Amorsolo.
2. Pio Lauengco.

Superintendent.

1. Eugenio Viana.

Assistant Superintendent and Property Clerk.

1. Agapito C. Paulino.

Chief Nurse.

1. Selma B. Gregory.

Assistant Chief Nurse.

1. Tomasa Goduco.

Nurses.

1. Lucia G. Sebastian.
2. Sotera E. de Capellan.
3. Maria Tinawin.
4. Dominga T. Dimayuga.
5. Gregoria E. Dumpit.
6. Rufina A. Agoncillo.
7. Socorro G. Misa.
8. Eufrasia Costa.
9. Remedios de la Paz.
10. Simeona Asido.
11. Modesto Libuit.
12. Patricia E. Intengan.
13. Olimpia Lumen.
14. José P. Misa.
15. Brigida A. Eugenio.
16. Salomon P. Sipin.
17. Arsenia Infantado.
18. Segundina del Rosario.
19. Agripina O. Aberin.
20. Consolacion C. Manipol.
21. Concordia Ruiz.
22. Juliana Capistrano.
23. Julian A. de Vera.
24. Maria Sembrano.
25. Simeon Gabriel.
26. Remedios B. Calubaquib.
27. Sabina de Jesus.
28. Lucila Angeles.
29. Florencia de Guzman.
30. Paula Imperial.
31. Rosario A. Ramos.
32. Petra I. Aguinaldo.
33. Clotilde Brillantes.
34. Socorro O. Ordoño.
35. Nicolasa Bautista.
36. Ana Teodoro.
37. Julita E. de Vera.
38. Gaudiosa Dizon.
39. Casimira Ostrea.
40. Leona Carranza.
41. Potenciana Olaguera.
42. Maria Morales.
43. Benita Zalamea.
44. Remedios Alberto.
45. Rosario Maravilla.
46. Olimpia C. Borlongan.

Dietist.

1. Monica J. Balmaceda.

Assistant Dietist.

1. Cipriana Nebrija.

Matron.

1. Joaquina Raymundo.

Pharmacist.

1. Victor Vitug.

Hospital Attendants.

1. Oscar Hunt.
2. Walter T. Scott.
3. Severo A. Dumpit.
4. Alfonso Cortey.
5. Elias Halili.

Clerks.

1. Pantaleon Gutierrez.
2. José M. Agoba.
3. Sofia Aquino.
4. Casamiro Pascual.

BAGUIO HOSPITAL.

Resident Physician.

1. Alfonso C. Concepcion.

Superintendent and Cashier.

1. Geronimo Mercado.

Pharmacist.

1. Isabel R. Concepcion.

Chief Nurse.

1. Maria Benaoro.

Nurses.

1. Florencia Urquico.
2. Romana Bumanglag.
3. Augusta Anoñgos.
4. Isabel Agdeppa.
5. Isabel Rimando.
6. Alejandra Ibalio.
7. Nicolas Soliven.
8. Juana Cortes.

Clerk.

1. Laureano Santiago.

SIBUL SPRINGS.

Resident Physician.

1. Clodoaldo Abad.

CULION LEPER COLONY.

Chief.

1. Jose Avellana Basa.

Assistant Chief.

1. Catalino Nicolas.

Physicians.

1. Santiago Icasiano.
2. José Mario Alonzo.

Construction Foreman.

1. W. H. Morris.

Steward.

1. Victorio Yabot.

Assistant Steward.

1. Antonio Rivera.

Dentist.

1. Pablo Calma.

Chaplains.

1. P. Francisco Javier Rello.
2. P. Felipe Millan.

Nurses.

1. Serapia Cadapan.
2. Victoria L. Vicente.
3. Juana Z. Ferreol.

Matron.

1. Carmen I. Tañada.

Sisters of Charity.

1. Sister Calixte.
2. Sister Candide.
3. Sister Cleotilde.
4. Sister Gilbert.
5. Sister Lucine.
6. Sister Marie Damien.
7. Sister Filomena.
8. Sister Pilar.

Sanitary Inspector.

1. Bernabe Laxamana.

Clerk.

1. Adriano Arceo.

DIVISION OF MINDANAO AND SULU.

Bacteriologist.

1. Cristobal Manalang.

Assistant Bacteriologist.

1. Justino Canda.

Chief Clerk.

1. Lucio Mariano.

Stenographer.

1. Adolfo Ramos.

Clerks.

1. Lope Tayao.
2. Arsenio Asuncion.

Property Nurse.

1. Jose Fernandez.

Messengers.

1. Francisco Perez.
2. Eulalio Siason.

Machinist.

1. Fortunato Alquero.

Dispensary Attendants.

1. Donato Barona.
2. Severino Ama.
3. Holma Akil.
4. Severino Valerio.
5. Mateo Salon
6. Macario Sumatra.

BUTUAN HOSPITAL.

Resident Physician.

Francisco Gomez.

Superintendent, Property Clerk and Cashier.

1. Nicomedes Queppet.

Nurses.

1. Sinforosa Divinagracia.
2. Nicolasa Portilla.

COTABATO HOSPITAL.

Resident Physician and Health Officer.

1. Pedro A. Rodriguez.

Superintendent, Property Clerk and Cashier.

1. Leopoldo Mercado.

Chief Nurse.

1. Anastasia Español.

Nurses.

1. Matilde Casiano.
2. Gregorio Manalang.

DAVAO HOSPITAL.

Resident Physician.

1. Simeon B. Macasaet.

Superintendent, Property Clerk and Cashier.

1. Juan L. Factora.

Chief Nurse.

1. Andrea Vicente.

Nurses.

1. Remedios Ferrer.
2. Ignacio Diego.

LANAO HOSPITAL.

Resident Physician and Health Officer.

1. Mariano C. Icasiano.

Superintendent, Property Clerk and Cashier.

1. Simeon Obsequio.

Chief Nurse.

1. Elisa R. Ochoa.

Nurses.

1. Vicente Adeva.
2. Romualdo Acedillo.
3. Sotera Cordovez.
4. Rufina Tubuclin.
5. Silvina Rosales.
6. Fermina Villa.
7. Fortunata Cadayona.
8. Vicente Silva.

SULU HOSPITAL

Resident Physician and Health Officer.

1. Paciano T. Garcia.

Superintendent, Property Clerk and Cashier.

1. Lorenzo Villaflor.

Chief Nurse.

1. Usna Mustafa.

Nurses.

1. Felicidad Nolasco.
2. Silvina Manglicmot.

Dispensary Attendant.

1. Victorio Karagdag.

ZAMBOANGA GENERAL HOSPITAL.

Resident Physicians.

1. Eusebio D. Aguilar.
2. Manuel Suamico.

Superintendent, Property Clerk and Cashier.

1. Alipio Reolope.

Clerk.

1. Damaso Abella.

Chief Nurse.

1. Leonor Santos.

Nurses.

1. Angela Villanueva.
2. Lucio Agulto.
3. Fatima Mustafa.
4. Agueda Vergara.
5. Conrada Silva.
6. Pelagia Lapuelba.
7. Miguel Garcia.

RIZAL MEMORIAL HOSPITAL.

Resident Physician.

1. Jesus A. Nolasco.

Superintendent, Property Clerk and Cashier.

1. Leocadio Magat.

Nurse.

1. Esperanza Dangilan.

PROVINCE OF BATANES.

Assistant Sanitary Inspectors.

1. Manuel Despues. 2. José Hontomin. 3. Lucio Blacer.

PROVINCE OF MINDORO.

District Health Officer.

1. Luis B. Gomez.

Assistant Sanitary Inspector.

1. José E. Lopez.

Dispensary Attendants.

1. Cristino Paras.
2. Cornelio Maninang.
4. Ciriaco T. Villar.
3. Leoncio Actas.

PROVINCE OF PALAWAN.

District Health Officer.

1. Buenaventura Toribio.

Dispensary Attendant-Sanitary Inspectors.

1. Vivencio Herrera.
2. Teresa A. Herrera.
3. Honorio Mejia.
4. Federico Tumang.
5. Deogracias Lustre.
6. Migdonio Villamor.
7. Juan Quilang.
8. José Buenaventura.
9. Melecio Zabalo.

CUYO HOSPITAL.

Chief.

1. Placido Araujo.

Nurses.

1. Emilia Ponce de Leon. 2. Donata Villanueva.

Clerk.

1. Guillermo Magura.

PROVINCE OF NUEVA VIZCAYA.

District Health Officer and Chief, Bayombong Hospital.

1. José de Leon.

District Nurses.

1. Esperanza Costes. 2. Dionisia Soriano.

Assistant Sanitary Inspectors.

1. Juan Umaging.
2. Tomas Nagui.
3. Doroteo Umaging.
4. Andres Rombaoa.
5. Fructuoso Cabreros.

BAYOMBONG HOSPITAL.

Resident Physician.

1. Toribio Joson.

Nurses.

1. Filomena Lopez.
2. Manuela M. Bascos.

MOUNTAIN PROVINCE.

District Health Officer and Chief, Bontoc Hospital.

1. Gabino Vinluan.

Clerks.

1. Basilio P. Pacaba.
2. Jose Velasquez.

SUBPROVINCE OF BONTOC.

Nurse.

1. Narcisa A. Benito.

Assistant Sanitary Inspectors.

1. Julio Angawa.
2. Joseph Padchingel.
3. Fidel Victorio.
4. Roger Ekid.
5. German Galupe.
6. Ñgoay Wales.
7. Leo Fomakao.
8. Silvino Waggay.

BONTOC HOSPITAL.

Resident Physician.

1. Ildefonso Alcantara.

Superintendent and Cashier.

1. Leon B. Garcia.

Chief Nurse.

1. Dolores R. Garcia.

Nurses.

1. Maria D. Dario.
2. Florencia Lopez.
3. Soledad Muyrong.
4. Magdalena Fonacier.
5. Felizberta Diaz.

SUBPROVINCE OF APAYAO.

Assistant Sanitary Inspectors.

Clerks.

1. Juan M. Taguba.
2. Esteban Mankanas.
3. Joaquin Bondad.
4. Joseph Fakangan.
5. Busca Carantes.
6. Elias Fisfis.
7. Juan Quimagorang.
8. Juan Laragan.

SUBPROVINCE OF IFUGAO.

Sub-District Health Officer.

1. Guillermo Abaya.

Nurse.

1. Fructuosa Villanueva.

Assistant Sanitary Inspectors.

1. Jose Arcebal.
2. Francis Padching.
3. Leon Akofo.
4. Eusebio Bottengan.
5. Pio Pagadut.

SUBPROVINCE OF BENGUET.

Sub-District Health Officer.

1. Jose M. Cariño.

Assistant Sanitary Inspectors.

1. Antonio Serrano.
2. Maki Ventura.
3. Abdon Bernal.
4. Lupe Wagtengan.
5. Marcos Rimando.
6. Francisco Bagario.
7. Bernabe Garcia.

SUBPROVINCE OF KALINGA.

Sub-District Health Officer.

1. Aniceto Peñalosa.

Assistant Sanitary Inspectors.

1. Felix Cerezo.
2. Bernabe Vadil.
3. Domingo del Rosario.
4. Clinton Gaayon.
5. Benjamin Pilis.
6. Juan P. Prado.
7. Ambrosio Acosta.

SUBPROVINCE OF LEPANTO-AMBURAYAN.

Nurses.

1. Ana Cariño.
2. Segunda Sixto.

Dispensary Attendant-Sanitary Inspectors.

1. Rufino Dacio
2. Antonio Crespillo.
3. Leon Quintos.
4. Agustin Pascual.
5. James Sepulchee.
6. Antonio Fagyare.

Assistant Sanitary Inspectors.

1. Luis Lardizabal.
2. Eugenio Ostrea.
3. German Astudillo.
4. Agustin Tayaban.
5. Antonio Guimbatan.
6. Filomeno Jimeno.
7. Gelacio Tabtab.
8. Joaquin Bernardez.

N. B.—This list does not include clerks and messengers in the different offices of the Administrative Division numbering about 50 persons and sanitary inspectors in regularly organized provinces, vaccinators, carpenters, cooks, helpers and servants in hospitals, laborers, and other unskilled employees and laborers, numbering about 825 persons.

ANNUAL REPORT OF THE PHILIPPINE HEALTH SERVICE, FISCAL YEAR 1920

DEPARTMENT OF PUBLIC INSTRUCTION,
PHILIPPINE HEALTH SERVICE,
MANILA, *July 5, 1921.*

SIR: I have the honor to submit herewith the Annual Report of the Philippine Health Service for the fiscal year ended December 31, 1920. As in previous years, the different activities of the Service are reported under their respective divisions and offices and vital statistics are given separately for each division, notwithstanding the fact that the provinces comprised within the former Department of Mindanao and Sulu have been duly incorporated into regular provinces by Act No. 2878, thus forming with the rest of the Archipelago, one homogenous Government.

RETROSPECT AND OUTLOOK.

The year under review was relatively free from the major epidemic diseases. The development and adoption of the health index system has materially aided in the early detection and prompt implantation of eradicative measures against such maladies. The mortality from smallpox has been reduced to about 16 per cent, compared with that of last year, and the mortality from cholera to less than one-tenth of 1 per cent. There have been 50 per cent less deaths from dysentery, and typhoid fever has also shown an appreciable reduction.

Anticholera vaccination has proved its usefulness as a supplementary measure in stamping out incipient outbreaks of the disease and the partial results of the modern treatment of leprosy obtained at San Lazaro Hospital by the Investigating Committee has brought the hope of cure to many as well as their redemption as outcasts from society.

Four additional provinces have been organized into regular health districts, leaving but one unorganized province in the Division of Sanitation in the Provinces, which was in process of organization at the end of the year. The improvement of means for securing sanitary information, have no doubt been potent factors in easier control of dangerous communicable diseases.

With an organization approaching a desideratum and the major health problems in process of satisfactory solution, but one factor is wanting to make a more healthy Philippines—more liberal appropriations for health work. Already our relative freedom from such diseases as smallpox, cholera, and the dysenteries should prove an incentive to foreign capitalists in making investments here.

ORGANIZATION.

Following the reorganization plan as detailed in the Annual Report for 1919, the following were organized: The Office of Health Education and the Section of Epidemiology in the Office of Statistics. The Office of Health Education has had charge of the publication of the Daily Bulletin of the Service and in editing its various reports. The Health Library is in process of formation and it is hoped that when finally established, it will place within the reach of the officers and employees of the Service information of the most up-to-date character hitherto reserved to a few. The Section of Epidemiology has been engaged in the following activities: Reporting and recording of cases and carriers, immunization activities and records, detection of epidemics and research work.

PERSONNEL.

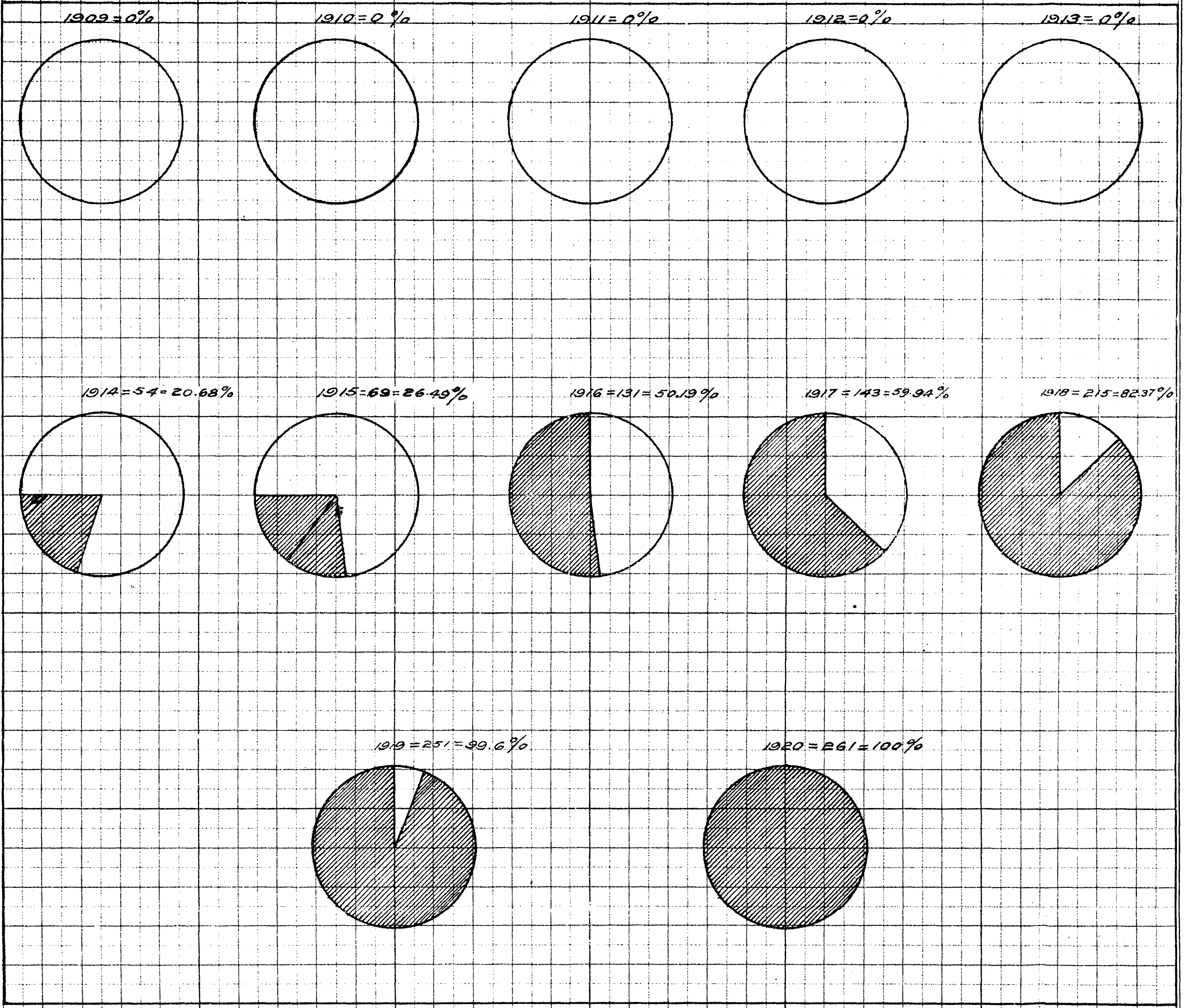
At the close of the year the following constituted the higher personnel of the service:

Dr. Vicente de Jesús, Director of Health.
Dr. S. V. del Rosario, Chief, Division of Sanitation, City of Manila.
Dr. Eugenio Hernando, Chief, Division of Sanitation in the Provinces.
Dr. Jacobo Fajardo, Chief, Division of Mindanao and Sulu.
Dr. J. P. Bantug, Assistant to the Director.
Dr. Manuel Gomez, Chief, Office of Statistics and Epidemiology.
Mr. Edward L. Barber, Chief, Office of Sanitary Engineering.
Mr. Eugenio Viana, Acting Chief, Office of Property.
Mr. Mamerto Tianco, Chief, Clerical Office.

The duties of each as outlined in a memorandum of the Director are as follows:

Duties of the Director of Health.—In addition to exercising the functions of chief executive, administrative officer and general authority in all matters embraced within the jurisdiction of the Service, he will handle the following specific matters with the exception of such of sim-

PHILIPPINE HEALTH SERVICE
REGULARLY ORGANIZED
SANITARY DIVISIONS



NOTE:–

1912 Act. 2156 providing for organization into Sanitary Divisions
1915 Act. 2468 Reorganization Act.

ilar nature over which the powers of the Director of Health, are delegated to the Chief of the Division of Mindanao and Sulu:

All matters pertaining to personnel.

All orders of travel.

All matters of a disciplinary nature.

All matters pertaining to hospitals, colonies, and sanatoriums under the control or management of the Service.

All matters pertaining to Anticholera Vaccination and Leprosy Investigation Committees.

The general inspection and the direction of such inspections of the operation of the Service as may be deemed convenient; and the direction of such visitations to hospitals or institutions for the treatment or care of sick, infirm, indigent, or disabled persons as may be necessary to secure the proper treatment and sanitary protection of their inmates.

All matters to be submitted to, or received from the Council of Hygiene.

All other matters not otherwise assigned.

Duties of the Assistant Director of Health.—With the exception of similar matters pertaining to the Division of Mindanao and Sulu over which the powers of the Director of Health, are delegated to the chief of said Division, the Assistant Director of Health will handle:

All matters pertaining to cemeteries.

All matters pertaining to food inspection.

All matters pertaining to the Board of Masseurs, Board of Embalmers, Insane Committee, and will pass upon the minutes of the said boards and committees and prepare action thereon for the approval of the Director.

Will have charge of the Offices of Child Hygiene and Public Health Nursing.

Will have charge of Infant Mortality Campaigns in Manila and provinces.

Will prepare the quarterly report and will assist in the preparation of the Annual Report.

Will perform such other duties as may be required or directed from time to time.

Duties of the Chief, Division of Sanitation, city of Manila.—Will have charge of all matters pertaining to health and sanitation in the city of Manila and Extra-Cantonment Zone, with the exception of food inspection and such other matters as are specifically handled by other officers. This Division will coöperate in every possible way with all other officers in the performance of such of their duties as pertain to the city of Manila.

Will perform such other duties as may be required and directed from time to time.

Duties of the Chief, Division of Sanitation in the Provinces.—Will have charge of all matters pertaining to health and sanitation in the provinces other than those comprised in the Islands of Mindanao and Sulu, with the exception of such matters as are specifically handled by other officers. This Division will coöperate in every possible way with all other officers in the performance of such of their duties as pertain to the Division.

Will perform such other duties as may be required or directed from time to time.

Duties of the Chief, Division of Mindanao and Sulu.—Will have charge of all matters pertaining to health and sanitation in Mindanao and Sulu, with the exception of such matters as are not herein specifically set forth as coming within his prerogatives but handled by other officers.

Will exercise in the Division the following powers of the Director of Health contained in Act 2711, known as the Administrative Code: Those of sections 945, 498, 950, 1032, 1043, 1044, 1046, and 1048; those of sections 946, 1075, 1076, 1082, 1083, and 1085, subject to the approval of said Director; and that of section 1028 subject to other laws, rules, and regulations thereto connected.

Will have charge of all matters relative to the personnel of the Division subject to such limitations as are herein prescribed.

Will handle all matters pertaining to and will make appointments of subordinate sanitary and hospital personnel of the Division as are within the exclusive appointive powers of the Director.

Will pass upon and make recommendations on all matters referring to all sanitary and hospital personnel of the Division that require the intervention of Civil Service, and will prepare correspondence thereunto pertaining for the approval or recommendation of the Director.

Will issue orders for assignments, transfers, and travel of the personnel of the Division and will submit them promptly to the Director for confirmation; such orders will be valid until disapproved by the Director, or otherwise revoked. District Health Officers of duly organized provinces of the Division will not, however, be transferred without the prior approval of the Director.

Will pass upon, and prepare for recommendation of the Director, the appointments and employment of provincial and municipal sanitary personnel of the Division.

Will pass upon, and prepare for the approval of the Director, all matters of the Division of a disciplinary nature.

Will handle the finances of the Division in accordance with the instructions that may be given him from time to time and will account for the property involved in the transactions and operation of the Division.

Will have charge of all correspondence and files within the Division subject to such requirements as may be prescribed from time to time.

Will perform such other duties as may be required or directed from time to time.

This Division will coöperate in every possible way with other officers in the performance of such of their duties as pertain to the Division of Mindanao and Sulu.

Duties of the Assistant to the Director.—Will have charge of health propaganda, health library, exhibits, films, social improvement, industrial improvement, and Woman's Clubs.

Will give out all information for the press subject to the prior approval of the Director. Chiefs of Divisions and Officers will furnish news to the press which they may have, except as otherwise provided, only thru this office.

Will perform such other duties as may be required or directed from time to time.

Will coöperate in every possible way with other officers in the performance of such of their duties as pertain to the jurisdiction of the office.

Duties of the Chief, Office of Statistics and Epidemiology.—Will handle all matters pertaining to vital statistics, burial, and exhumation permits in Manila and transcripts of records of the Office.

Will conduct by means of a section the work of statistical research and epidemiology.

Will coöperate in every possible way with other officers in the performance of such of their duties as pertain to statistics and will give out to the public unpublished information pertaining thereto only with the approval of the Director.

Will perform such other duties as may be required or directed from time to time.

Duties of the Chief, Office of Sanitary Engineering.—Will have supervision over all matters pertaining to sanitary engineering and construction in the Philippine Islands.

Will perform such other duties as may be required or directed from time to time.

Will coöperate in very possible way with other officers in the performance of such of their duties as pertain to, or may be handled by the office.

Duties of the Chief, Property Office.—Will handle all matters pertaining to property. Will issue supplies, etc., upon proper requisitions approved by the Director.

Will perform such other duties as may be required or directed.

Will coöperate in every possible way with other officers in the performance of such of their duties as pertain to property.

Duties of the Chief, Clerical Office.—Will have charge of all correspondence, files and financial matters.

Will serve as an information office of the Service and in general as a connecting link between different divisions and offices.

Will render every possible coöperation and assistance to all officers in the performance of their duties that the office is capable of.

Will perform such other duties as may be required or directed by the Director.

PROCEDURE OF TRANSACTIONS.

All official correspondence received in the main office of the Service will be opened by the Chief, Clerical office, and distributed to the divisions or offices to which the correspondence pertains.

Chiefs of divisions and offices will take appropriate action with reference to all correspondence, as quickly as possible, and will file in the office of, or mail to the Director at the end of each week, a list of all correspondence that has not been attended to for the week preceding with a statement of the reasons therefor.

Routine correspondence, inquiries, or general information may be signed by the chief of division or office to which the matter pertains as follows:

By order of the Director of Health:

(Signature) ....,
Chief, Division or Office of............

All correspondence pertaining to new work, or correspondence containing statements with reference to the policy of the Bureau or decisions setting a precedent, requisitions, authorizations for expenditures and correspondence relating in any way to finance with the exception of such similar matters as are embraced within the prerogative granted to the Chief of Division of Mindanao and Sulu, shall be prepared for the signature of the Director; however, correspondence relative to food inspection and cemeteries may be signed by the Assistant Director of Health as such.

All official letters or indorsements addressed to the Governor-General or his Secretaries, Secretaries and Subsecretaries of Departments, Members of the Philippine Legislature, Chief of other Bureaus and offices of the Government will be prepared for the signature of the Director.

Any chief of division or office preparing an official letter or indorsement unless otherwise authorized, shall, before said letter is finally signed and placing first his initials on the duplicate carbon copy, beneath the title "Director of Health" if prepared for signature of the Director, send it to any chief of division or office who may be affected by or interested in said letter or indorsement; such chief shall place his initials in the lower left hand corner of the duplicate carbon copy of the letter or indorsement thereby indicating his knowledge of its contents and his concurrence therewith. The correspondence shall then be sent to the Director if prepared for his signature or returned to the Division in which it originated, if for signature of the chief of that division, who will sign and mail it.

A carbon copy of all correspondence that has been signed by the Assistant Director of Health and chiefs of divisions or offices and mailed during a business day, shall be sent to the office of the Director at the close of business of said day if possible, if not, at the first available opportunity.

All official correspondence with the exception of such as is handled by the Chief of the Division of Mindanao and Sulu in his division shall be mailed in the Clerical Office, and it shall be the duty of the Chief, Clerical Office, to see that the above instructions have been carried out prior to the mailing of any official correspondence. Should any of the above instructions have been omitted, it shall be the duty of the Chief, Clerical Office, to return the letter to the office in which it originated accompanied by a note calling attention to the omission that the same may be corrected.

The clerical force of the Service will be under the control of the Chief Clerical Office, and Chiefs of divisions and offices needing clerical or stenographic assistance will obtain same from him or by sending an office messenger to call the stenographer. Stenographers will answer such calls in rotation.

Interviews shall not be given to the representatives of the press without the subject matter having been previously communicated to the Director and his approval therefor obtained.

Chiefs of divisions and offices are particularly cautioned to make notes of all interviews and conversations where the subject matter is of sufficient importance, to the end that exact information as to what has been said may be at hand if needed in the future. These notes should be sent to the files for future reference.

Any other instructions previously issued contrary to the provision of this order which supersedes any other of similar nature heretofore in force, are hereby declared null and void.

(Sgd.) V. JESUS,
Director of Health.

Organization.—Since the resignation of Surgeon John D. Long as Director of Health for the Philippine Islands in December, 1918, the undersigned has acted as such until November 10, 1920, when he was finally appointed to the position. Fortunately for the present incumbent, during what may be called his period of trial, the general mortality rate has steadily decreased, the infant mortality situation has shown a marked improvement, and constructive sanitation, especially in the provinces, has been given an impetus. Still, the lack of properly trained personnel is being keenly felt, especially outside of the larger centers of population, where the sacrifice of being isolated and the lack of intercourse with refined society are not compensated by a relatively bigger salary.

Other promotions:

From Senior Medical Inspector to District Inspector:

Dr. Florentino Ampil.
Dr. Gabriel Intengan.
Dr. Roberto B. de Leon.
Dr. Manuel Llora.
Dr. Rafael Villafranca.

From Medical Inspector to Senior Medical Inspector:

Dr. Leoncio Lopez Rizal.
Dr. Vicente Rivera-Sayo.

From Senior Surgeon to Medical Inspector:

Dr. Eufemio Jara.
Dr. Eusebio Aguilar.

From Surgeon to Senior Surgeon:

Dr. Eugenio S. de Jesus.
Dr. José Vidal.
Dr. Manuel V. Argüelles.
Dr. Elias Domingo.

From Surgeon to Specialist in Nervous and Mental Diseases:

Dr. Elias Domingo.

From Surgeon to Resident Physician:

Dr. Luis Lauchengco.

Entrance in the service:

As Senior Surgeon (by reinstatement):

Dr. Severina Luna-Orosa.

As surgeon:

Dr. José Castrillo.

Entrance in the Service as Assistant Surgeon:

Dr. José M. Cariño.
Dr. José Gonzalez Roxas.
Dr. Felix Amorsolo y Cueto.
Dr. Rafael Cancio.
Dr. Marcos Corpus.
Dr. Pio Lauengco.
Dr. Miguel Lopez.
Dr. Isabelo D. Mallari.
Dr. Mariano Santos.

The following commissioned officers resigned:

Medical Inspector Mariano Atienza.
Medical Inspector Felino Simpao.
Senior Surgeon Donato Montinola.
Surgeon Marcelo Agana.
Surgeon Pedro Buenaseda.
Surgeon Marciano Crisólogo.
Surgeon Luis Lauchengco.
Surgeon Ildefonso Tobillo.
Surgeon Guillermo Zandueta.

The following assistant surgeons were separated from the Service for causes stated:

Dr. José C. Zarraga, resigned, services satisfactory.
Dr. José Urgino, dishonorably discharged.
Dr. Dalmacio Jugueta, resigned, services satisfactory.
Dr. Felix Amorsolo y Cueto, resigned, services satisfactory.
Dr. Pio Lauengco, resigned, services very satisfactory.
Dr. Isabelo D. Mallari, honorably discharged, services satisfactory.

We have to record with regret the death of:

Senior Surgeon Francisco Javier, November 24, 1920.

PROBLEMS AHEAD.

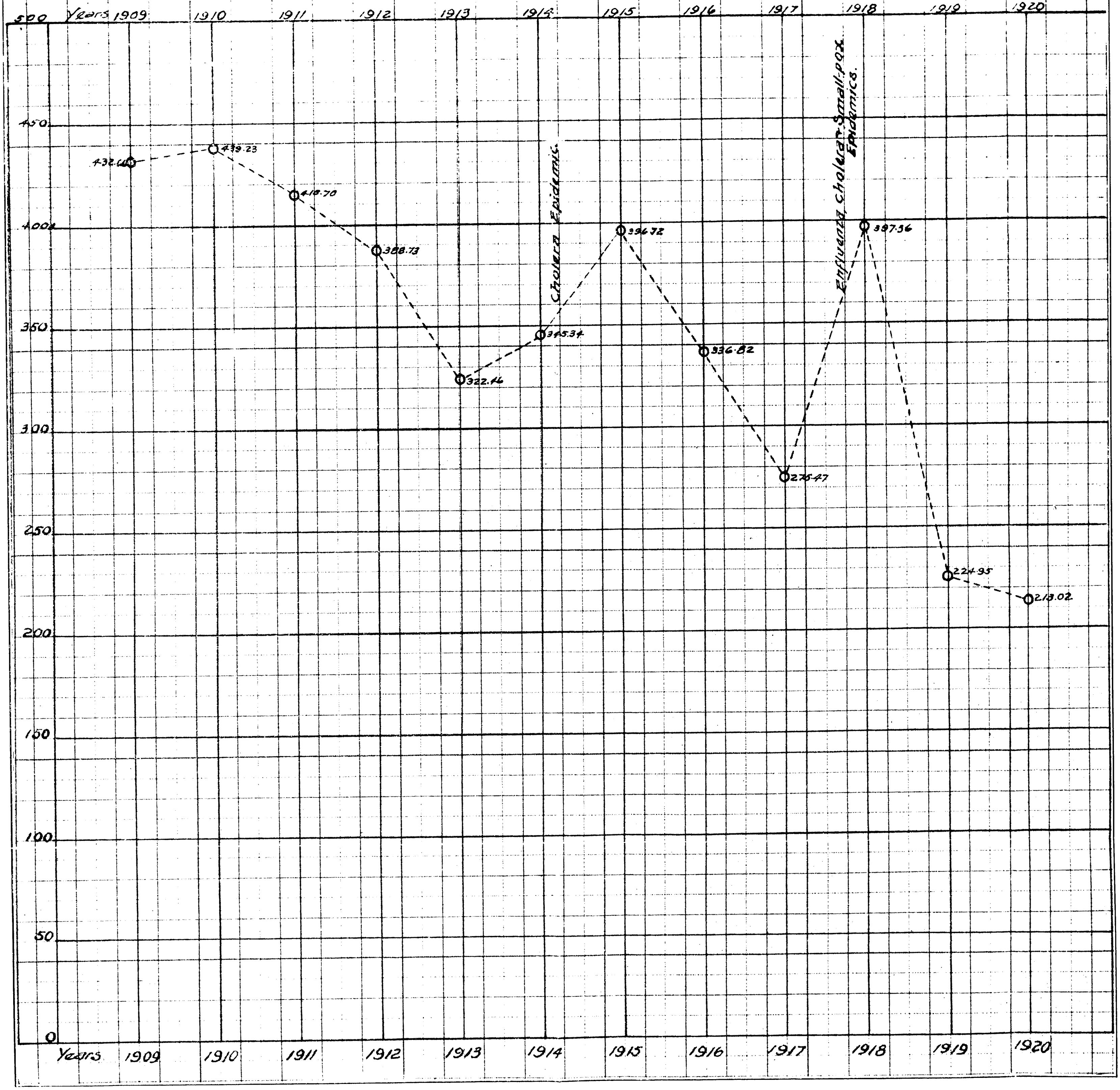
On par with progress realized by the country along all activities of life, we must consider also the legitimate ambition of our people to live better and to enjoy the longest life possible. Individual and collective hygiene provides us with scientific means to successfully attain such aims. Preventive medicine teaches the way to avoid and suppress the causes and conditions favorable to the propagation of diseases; and it provides man further with the means to develop and strengthen his vital resistance, which redounds to his increased capacity and power. That is why public health is considered nowadays to be the foundation upon which rests the civilization of a people and the power of a nation. Our Government has always upheld and will always uphold decidedly the promotion of public sanitation within its limited resources. With a health service which is not expensive, we are sure that the people will support the Government and feel proud to secure for it a place among even the most powerful and progressive Governments in the world.

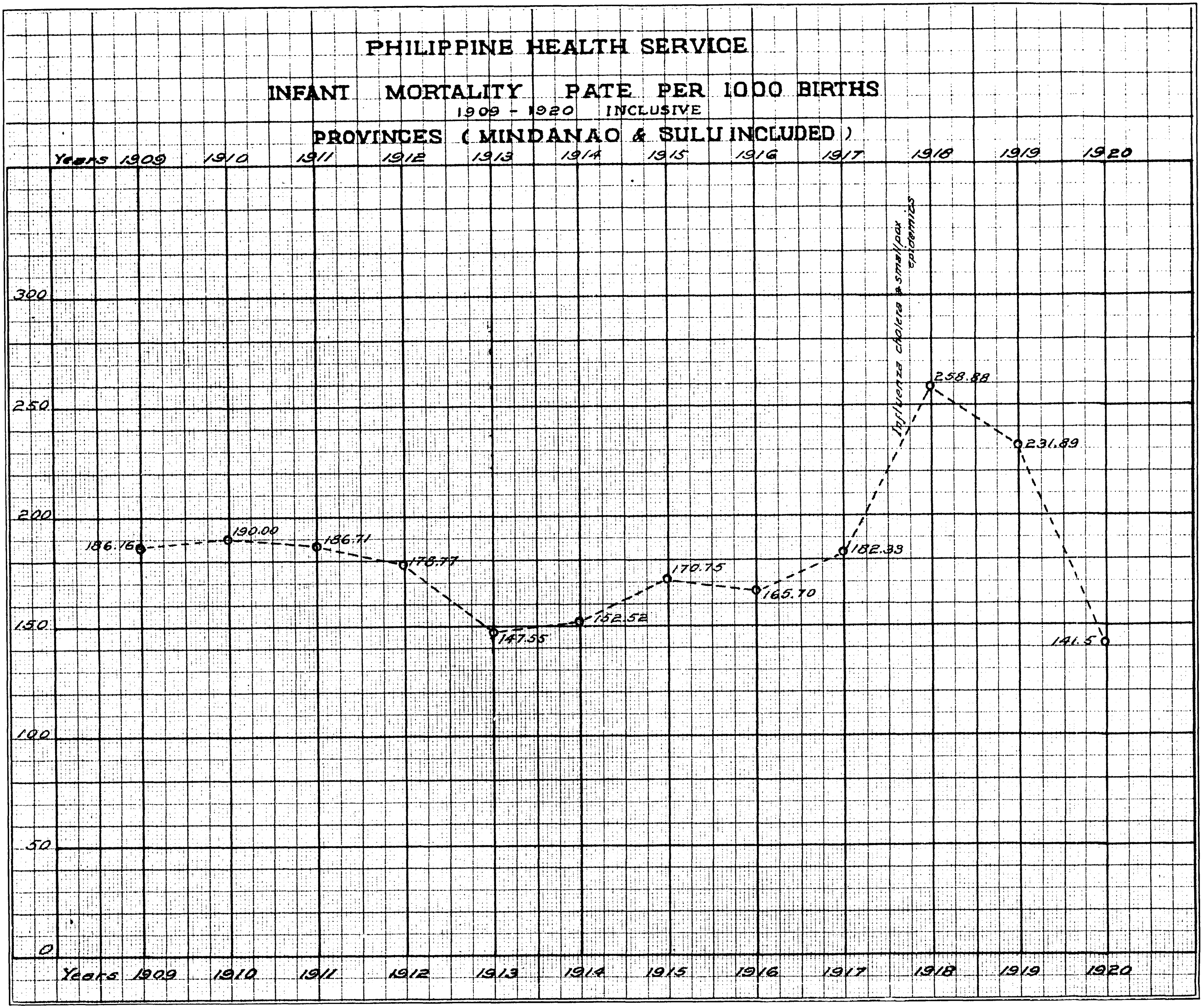
What sanitation has done for the city of Manila, is shown by the reduction of its general mortality from 48.83 per thousand in 1904 to 26.47 ~~28.79~~ per thousand in 1920. Our next endeavor should be to achieve like benefits in the provinces, municipalities, barrios, and in those territories inhabited by our non-Christian brothers. Sanitation in the provinces is promoted by the improvement of drinking water, by the establishment of water-

PHILIPPINE HEALTH SERVICE

INFANT MORTALITY RATE PER 1,000 BIRTHS
1909-1920 INCLUSIVE

CITY OF MANILA




PHILIPPINE HEALTH SERVICE

INFANT MORTALITY RATE PER 1000 BIRTHS
1909 - 1920 INCLUSIVE

PROVINCES (MINDANAO & SULU INCLUDED)

works systems, the drilling of artesian wells, and digging of sanitary wells, and, with the increasing efforts to establish sanitary closets, public as well as private, we should be able to free ourselves of the more prevalent diseases in the community, which, from time to time, decimate its inhabitants.

Among the first and most important problems with which the Service has to deal is infant mortality. It is a stupendous national work, if it is to be solved promptly and well. With an organized and intensive campaign against infant mortality, and above all, with the decided support of the public, it will be possible to achieve the longed for result, the realization of which means the conquest of one of the greatest obstacles to the progress of the Islands. We have other work of no less importance which calls for strenuous efforts and no end of sacrifices; such as the campaign which was started last year for a general systematic vaccination all over the country. The vaccination against cholera was started about the beginning of this year and its results were so promising that the appearance of a cholera epidemic on a large scale like those which occurred frequently in the past, will not, in all human probability, be repeated. The struggle to prevent typhoid by means of antityphoid vaccination, augers hopefully at least for the reduction of the incidence of this disease. The treatment of lepers in the hands of the committee appointed for the purpose which is now studying the matter at the San Lazaro Hospital forebodes success in the future, and the work of this committee will undoubtedly redound to the benefit of the 5,000 lepers who are segregated in Culion and also to the others at large who constantly jeopardize the health of their fellow-beings. There are other health problems no less important, the solutions of which have to be undertaken as the years roll on; and with the education of the public along sanitary lines it is confidently hoped that final success will be ours. We should not, however, be too impatient. The results of sanitary work may not be manifest at once. We should continue working and striving until we arrive at the heights reached by other civilized nations of the world, so that our country will be a safe place wherein nationals and foreigners alike can live peacefully, and well.

APPROPRIATION AND EXPENDITURES.

It has been truly said that the two best tests of the degree of civilization which a country has attained are the state of education, and the attention it devotes to the public health. And nowhere can the interest of the Government in community welfare be best appreciated than in the amount it lays aside for public health purposes. Year after year has seen the steady increase in our health appropriations, altho considering the magnitude of the problem, we are still devoting much less amount per capita than many countries of the size and resources of ours.

Following are the comparative appropriations and expenditures for 1919 and 1920, classified by items and by divisions:

Comparative Statement of Expenditures during the year 1919 and 1920.

BY CLASSIFICATIONS.	1919.	1920.
Salaries and wages	₱729,440.47	₱798,455.68
Bonuses	104,042.67	121,092.26
Traveling express of personnel	98,263.92	88,527.43
Freight, express and delivery service	25,046.98	26,465.87
Postal, telephone, telegraph and cable service	8,787.25	10,778.37
Illumination and power service	17,532.94	35,422.22
Miscellaneous service	16,988.86	30,702.72
Rental of buildings and grounds	2,869.35	3,462.00
Consumption of supplies and materials	1,235,033.70	1,256,457.47
Printing and binding	13,116.48	14,847.20
Contribution and gratuities	55,090.80	53,242.71
Traveling expenses of non-Government employees	39,903.65	37,284.25
Maintenance and repairs	8,591.49	5,918.61
Outlays	55,697.14	38,211.75
Deterioration of supplies and sales stocks	210.52	2,693.69
Extraordinary losses		43.89
Insular aid to specially-organized provinces	337,763.00	423,056.00
Totals	2,748,379.22	2,946,662.12
BY DIVISIONS.		
Administrative office	211,820.81	325,347.47
Sanitary engineering office	19,626.97	19,713.26
Diseases and pests campaign	24,001.44	71,235.03
Culion Leper Colony	901,625.17	860,545.06
Vaccination division	268,797.07	172,295.14
San Lazaro Hospital	468,059.58	507,096.09
Baguio Hospital	53,951.83	58,165.41
Sibul springs	2,878.82	2,846.39
Health publicity campaign	24,687.29	5,320.77
Sanitation, city of Manila	179,207.31	154,849.90
District nursing	12,570.65	19,914.38
Provincial sanitation	160,087.06	301,258.45
Division of Mindanao and Sulu	83,302.22	[a] 25,018.77
Specially-organized provinces	337,763.00	423,056 00
Totals	2,748,379.22	2,946,662.12

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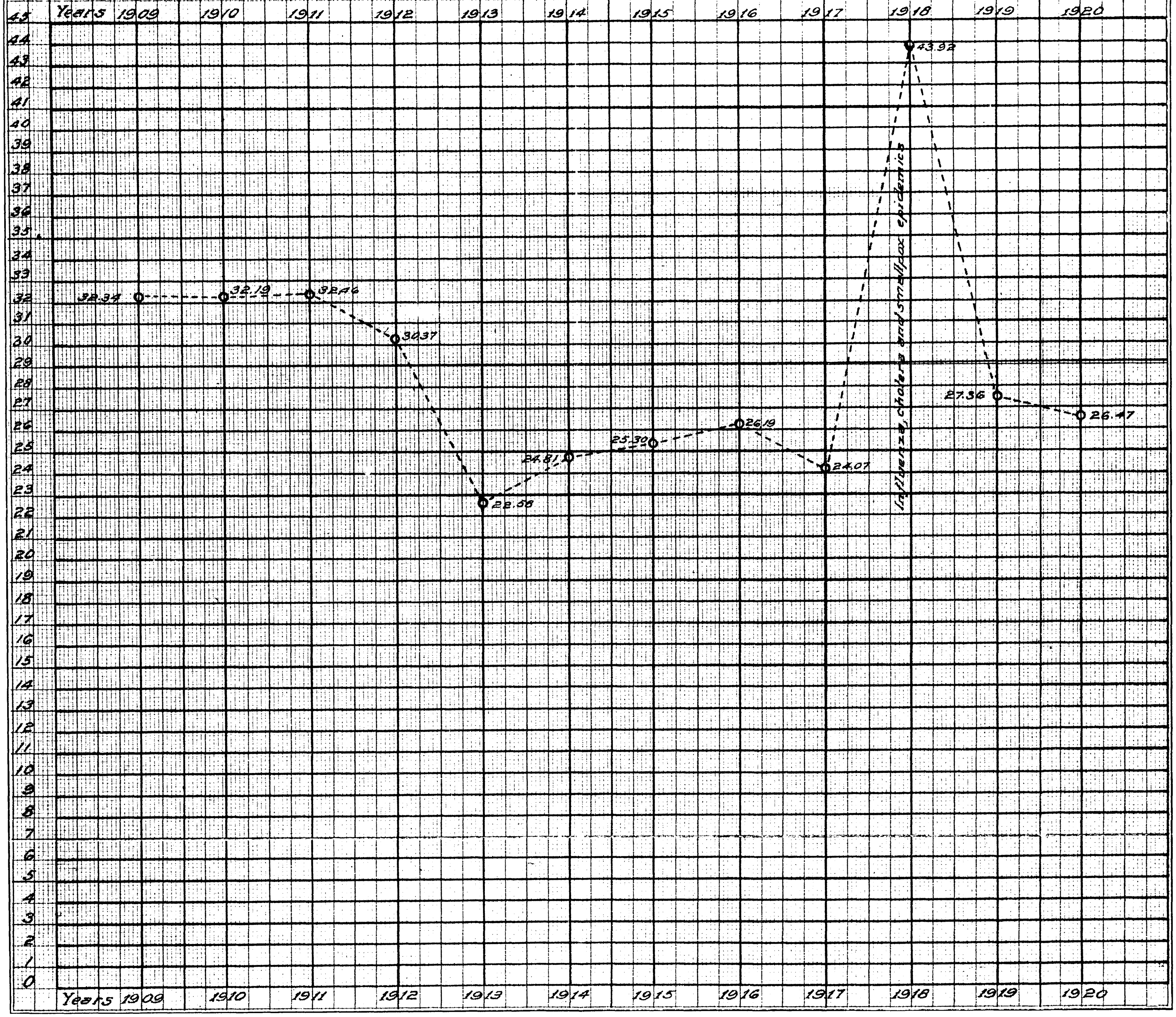
[a] The salaries and wages of commissioned officers in the Division of Mindanao and Sulu for 1920, have been included with those of the Provincial Sanitation.

PHILIPPINE HEALTH SERVICE

ANNUAL DEATH RATE PER 1000 POPULATION

CITY OF MANILA (RESIDENTS ONLY)

1909-1920 INCLUSIVE



GENERAL MORTALITY.

The general mortality rate in the Islands for 1920 is lower, compared with that of the past year, and is the lowest rate recorded during the past five years.

In the city of Manila the rate for 1920, including transients, is 30.07 per 1,000 population. This rate is 1.25 per thousand lower than that for 1919.

In the provinces the general mortality rate is 20.67 per thousand population which is lower by almost 5.57 per thousand population, compared with that of last year, and less than one-half the rate of 1918.

In Mindanao and Sulu the general rate is 20.84 per thousand population which is lower by 2.91 per thousand population than that of the past year.

INFANT MORTALITY.

The infant mortality rate for 1920 shows clearly the saving of infant lives effected.

In the city of Manila the rate this year is the lowest yet attained in the history of the Service since its organization. The average rate of infant mortality for the last five years from 1915 to 1919 was 326.30 per thousand births, which, compared with the rate for 1920, shows a reduction in favor of this year, of 161.54 per thousand births. As a consequence, it is estimated that in Manila alone over 2,000 infant lives have been saved during the period covered by this report.

The infant mortality in the provinces for 1920 is 156.90 per thousand births, which is the lowest recorded since 1916. It is 69.98 per thousand lower than in 1919.

The infant mortality rate in Mindanao and Sulu, although relatively high, is yet lower than the rate recorded in the past year, there being 200.80 deaths per thousand births in 1920, as against 269.09 in 1919. This is due to the fact that more parturients now come to the hospitals for delivery, and to the fact that the spread of health education has brought better care for children, and doctors are now more often consulted for their ailments. Still the infant mortality rate is yet high when compared with American standards. Infantile beriberi was the most prevalent cause of infantile mortality, especially among Christians.

EPIDEMICS.

The Islands have been fortunate enough that no epidemic of any consequence has been registered during the year.

COMMUNICABLE DISEASES.

Smallpox.—Only 5 cases of smallpox with 3 deaths have been reported in the city of Manila during the whole year, as against 57 cases and 39 deaths from the same disease last year.

In the provinces, smallpox continued to occur, especially in the southern part of Luzon and the Visayas, as an aftermath of the epidemic of 1919, registering 10,448 cases with 4,386 deaths, relatively insignificant figures when compared with 60,612 cases and 43,294 deaths recorded in 1919.

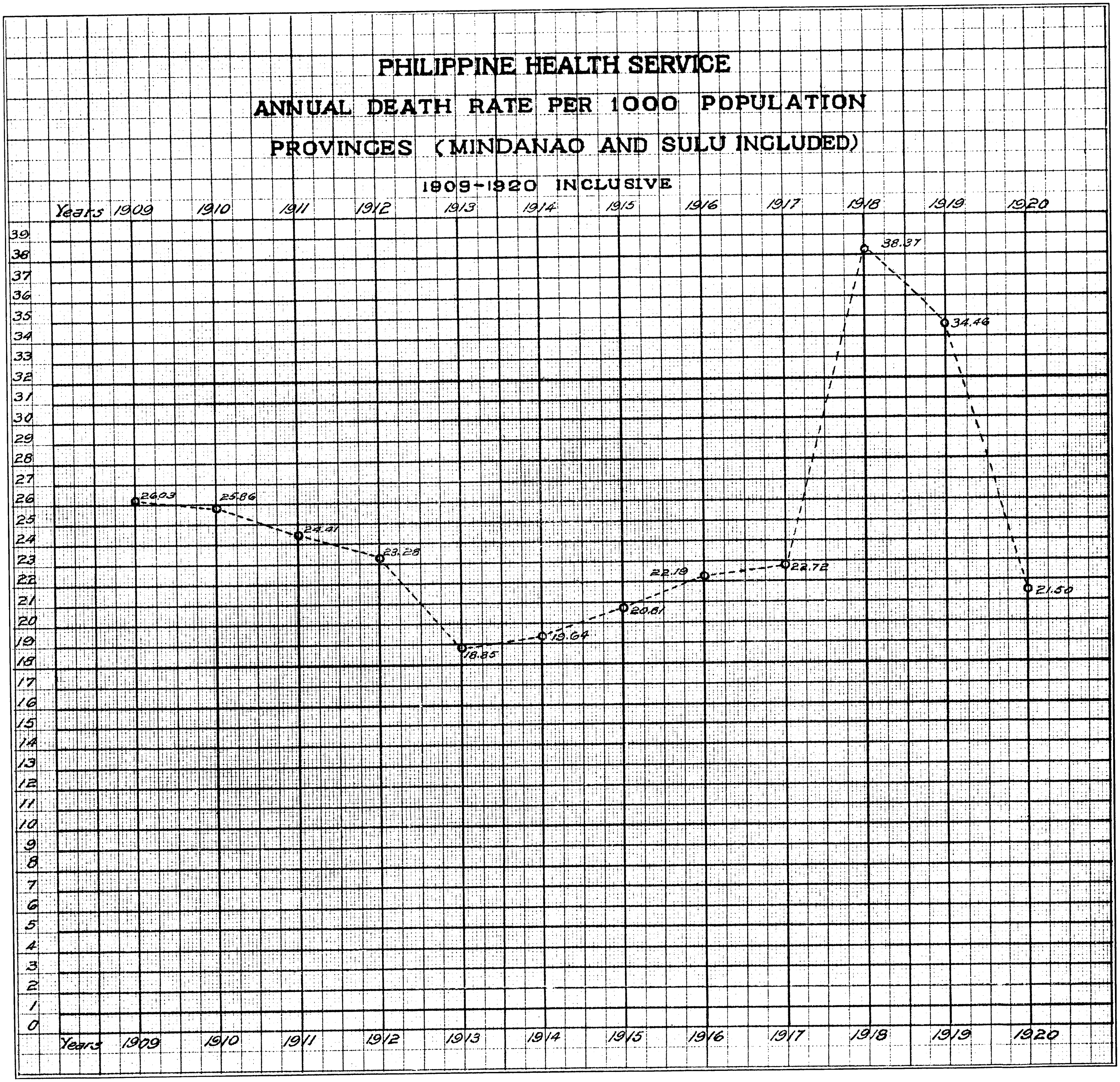
To control smallpox, six vaccinating parties, composed of about 20 individuals each, have been performing systematic general vaccination in the provinces. About 4,300,000 vaccine units have been distributed in the provinces during the past two and a half years, with an estimated positive result of 77 per cent.

Dried smallpox vaccine, prepared at the Bureau of Science, has been employed with success. One hundred thousand units of this virus have been used in remote places within three months after their shipment to these places, and its effectiveness compares favorably with the common fresh vaccine.

In the city of Manila, 241,289 vaccinations have been performed.

The provinces of Misamis, Bukidnon and Surigao of the Division of Mindanao and Sulu remained infected at the close of 1920. The cases and deaths registered this year appear to be more numerous than those of last year. An aggregate of 5,404 cases and 2,805 deaths have been registered in 1920, as against 4,511 cases and 1,075 deaths in 1919. It may be said that this disease was not under complete control at the close of the year, and it may not be amiss to refer to the causes of this seeming failure. In Misamis especially, sanitary inspectors and vaccinators were not trained in regard to perform vaccination properly and to preserve the vaccine virus from unduly becoming deteriorated. Moreover, the work was not properly supervised. Another difficulty was in transporting the vaccine virus to the field on account of the poor means of communication, which reflects upon the results obtained, as only from 10 to 15 per cent of those vaccinated became positive. Quarantine was defective and emergency hospitals were not put up on account of the poor resources of the province. In Cagayan an emergency hospital was built partly at the expense of the local Women's Club.

Dried vaccine gave good results.



PHILIPPINE HEALTH SERVICE

ANNUAL DEATH RATE PER 1000 POPULATION

PROVINCES (MINDANAO AND SULU INCLUDED)

1909-1920 INCLUSIVE

Cholera.—In the city of Manila, 20 cases and 3 deaths have been registered in the whole year, as against 861 cases and 352 deaths in the past year.

In the provinces, 1,370 cases and 1,384 deaths have been registered. This shows a very marked improvement when it is considered that last year there were registered 24,337 cases and 17,261 deaths.

In Mindanao and Sulu the record was even better, there having been registered but 1 case and no death in the entire year, whereas 239 cases with 169 deaths have been registered during the past year.

Vaccination against cholera.—As a supplementary measure to standard methods of fighting the disease, anticholera vaccination has been resorted to, especially in those places where cholera has become endemic and also in those places where sporadic outbreaks of the disease occurred. Contacts and other persons who had been exposed to the disease or who habitually failed to maintain personal prophylaxis have been given preferential attention. A total of 185,000 anti-cholera vaccinations have been performed throughout the Islands without a single case of accident having been reported.

Dysentery.—A reduction in the number of cases of dysentery has also been noted this year.

In the city of Manila, judging from the cases registered this year, it may be said that the disease is gradually disappearing, due, undoubtedly, to a better supply of drinking water and its maintenance from contamination in public eating places. Rigid vigilance of these places brought about this happy result.

In many provinces dysentery still remains an endemic disease, the number of cases and deaths this year compares favorably with those of the past year. A total of 12,809 cases with 8,511 deaths has been registered during 1920, whereas in 1919 a total of 18,066 deaths were registered.

In Mindanao and Sulu the problem appears to remain stationary with but a slight reduction in the number of cases registered. A total of 790 cases with 275 deaths has been registered in 1920, as against 1,022 cases with 254 deaths in 1919.

Typhoid fever.—In the city of Manila there was an increase in the number of cases of typhoid fever this year, compared with those of last year. In 1920 there have been 577 cases with 282 deaths, as against 441 cases with 216 deaths in 1919.

In the provinces, the situation appears to have improved. But 2,407 cases with 2,043 deaths have been registered in 1920, as against 3,720 cases with 3,201 deaths in 1919.

In Mindanao and Sulu a marked improvement may also be noticed, there having been in 1920, 127 cases with 60 deaths, as against 286 cases with 162 deaths in 1919.

The disease has always been kept within bounds. In addition to the strict sanitary measures which have been taken, such as the quarantine and supervision of carriers, the control of water and milk supplies, the sanitary disposal of excreta and the prohibition of the sale of oysters, mollusks, and other crustaceans, antityphoid vaccination was employed. No accidents have been reported from its use. Vaccination of contacts was made obligatory. Many volunteers, however, have been vaccinated. The vaccination performed in the city of Manila totalled 8,438, in the provinces 10,500 and in Mindanao and Sulu 1,138.

Beriberi.—Although beriberi has become negligible as a factor in mortality, still a number of cases has been reported in the city of Manila, as well as a number of deaths from infantile beriberi. The Office of Public Health Nursing in the city of Manila has been charged particularly with the stamping out of beriberi among infants. In addition to the free distribution of tiki-tiki extract to beriberic mothers and their children, simple directions on the prophylaxis and treatment of beriberi have been prepared and distributed broadcast, especially to interested parties. The results have been gratifying.

Malaria and tuberculosis.—Malaria and tuberculosis remain to be the chief causes of morbidity and mortality in the Philippine Islands. In no other diseases perhaps can be influence of sanitary education be employed to better advantage than in these. Both are easily preventable and the means of infection have been known to even the laity for more than three decades. Due to the impossibility of giving complete morbidity statistics on the above diseases, only the mortality figures are here mentioned. During 1920, malaria has claimed 24,440 victims, as against 33,444 in 1919, and tuberculosis 29,572 in 1920, as against 30,902 in 1919.

VENEREAL DISEASES.

Prior to 1919 no effort was made towards keeping morbidity statistics on venereal diseases, but partial figures are available concerning them. Nevertheless, the data at hand permit us to deduce that unless radical measures are taken, these diseases are bound to spread, especially among the more innocent members of the community and undoubtedly will, in the end, undermine the vitality of the race.

In Manila where partial figures are obtainable, there were 533 cases of gonorrhœa in 1920 as against 136 in 1919. The total number of patients treated at the clinic in 1920 was 837 as compared with 391 in 1919. In Mindanao and Sulu there were 240 cases of gonorrhœa as against 193 in 1919, and 83 cases of syphilis in 1920 as against 71 in 1919. The most potent causes in the spread of these diseases in the Division of Mindanao and Sulu are: (1) polygamy, (2) prostitution, and (3) ignorance of sex hygiene.

It was for the purpose of checking their onslaught that the undersigned has been moved to take action by establishing venereal disease clinics as a preliminary step, and later by drafting the following bill to be submitted to the Council of Hygiene for study and recommendation:

SIXTH PHILIPPINE LEGISLATURE, }
First Session. }

HOUSE OF REPRESENTATIVES.

H. R. No. ....

[Presented by..]

PREFATORY NOTE.

It has been known for sometime past among health officials in the United States, that venereal diseases, like syphilis and gonorrhœa, are responsible for approximately as much illness and as many deaths, as tuberculosis and cancer; and yet, owing to the secrecy concerning them, no corresponding effort has been made to publicly combat them. A large number of the victims are innocent wives and children, and many are accidentally infected. It is now proposed to draw aside this curtain of hypocrisy and attack these diseases from a public health standpoint, fighting them in the open as we do other infectious and communicable diseases.

Syphilis affects a large number of the population. In the United States, where statistics are available, about 14 per cent of the population is infected. It is transmissible to offspring and causes death in eighty per cent of those infected. It is responsible for not less than one-half of still-born babies and is a large factor in mentally defective children. It is the cause of nearly half the abortions and miscarriages. It shortens life by about one-third.

Gonorrhœa is a very prevalent disease. In the United States, it is said to be the most prevalent disease with the exception of measles. In the Philippines, though no complete morbidity statistics are available, yet the report of the Venereal Clinic of the Philippine Health Service at San Lazaro Hospital, throws some light as to its prevalence. During the year 1920, the second year of its opening, this clinic treated 533 cases of gonorrhœa, whereas in 1919 there were only 136 cases treated; the total number of patients treated in this clinic during 1920 is 837 as compared with 391 cases treated in **1919.**

Gonorrhœa causes blindness in the newborn in about 80 per cent of the cases. It is the cause of a large percentage of surgical operations in women and produces sterility in both men and women.

About 80 per cent of all public women are infected with either syphilis or gonorrhœa. They are therefore a prolific source of infection.

Both of these diseases are transmissible by direct contact, but the means of prevention are happily at our command.

SIXTH PHILIPPINE LEGISLATURE,
First Session.

HOUSE OF REPRESENTATIVES.

H. R. No............

[Presented by..]

AN ACT APPROPRIATING THE SUM OF ONE HUNDRED THOUSAND PESOS FOR THE ESTABLISHMENT IN THE PHILIPPINE HEALTH SERVICE OF THE OFFICE OF VENEREAL DISEASES AND PROVIDING FOR THE APPOINTMENT OF THE NECESSARY PERSONNEL AND FOR OTHER PURPOSES.

Be it enacted by the Senate and House of Representatives of the Philippine Legislature assembled, and by authority of the same:

SECTION 1. An office of venereal diseases is hereby established in the Philippine Health Service.

SEC. 2. This office shall be under the direct control of the Director of Health who shall appoint all necessary employees thereof and fix their salaries.

SEC. 3. The Philippine Health Service shall be authorized to buy and dispense, under such conditions as may be prescribed by the Director of Health, remedies for the treatment of venereal diseases, to examine or have examined specimens submitted to it; to make or cause to be made all necessary tests; provide and distribute literature and to use other means as seem advisable for the instruction of the public and suppression and cure of venereal diseases.

SEC. 4. For the effective carrying out of this plan the Director of Health may promulgate such rules and regulations, which, after being duly approved by the Secretary of Public Instruction, shall have the full force of law.

SEC. 5. Since prostitutes are a prolific source of infection, every means available shall be employed to suppress prostitution.

SEC. 6. The sum of one hundred thousand pesos is hereby appropriated to be used for this purpose.

SEC. 7. For the purpose of this act, "venereal disease" shall be held to include syphilis, gonorrhœa and chancroid.

SEC. 8. Any person violating any rules or sets of rules promulgated by the Director of Health, is guilty of misdemeanor and on conviction may be punished by a fine of a sum not less than fifty pesos nor more than two hundred pesos or imprisonment for not less than three months nor more than six months, or by both such fine and imprisonment, at the discretion of the court.

SEC. 9. This Act will take effect on its approval.

Approved:

MEDICAL RELIEF.

Four additional hospitals have been established during the year, making a total of 25 hospitals operating under the supervision of the Health Service. More revenues were collected and more operations performed during 1920 than in 1919, but a lesser number of patients were treated in 1920 than in 1919 due to the prevalence of epidemics in 1919 and to the fact that admissions to these hospitals had to be restricted to the minimum in 1920 for fear of an overdraft. There were treated in these hospitals 17,962 patients during 1920 as compared with 19,664 in the past year.

The increase in the number of dispensaries, 976 in 1920 as against 769 in 1919, has brought professional medical assistance to places where this service has hitherto been unknown. These dispensaries have served not only as distributing depôts of sanitary information, but also have aided greatly in the discovery of cases of dangerous communicable diseases and the suppression of impending epidemics. In these dispensaries, 256,494 patients were treated during the present year as compared with 243,148 in the past year.

In Manila but six dispensaries are maintained by the Health Service because other Government and private institutions have adequate provisions for medical relief, such as those maintained by the different hospitals and societies, the most important among which are the Philippine General Hospital, San Juan de Dios Hospital, Mary J. Johnston Memorial Hospital, Mary Chiles Christian Hospital, the Society for the Protection of Early Infancy and the Philippine Islands Antituberculosis Society.

The Health Nursing Division of the Service has enlarged the scope of its activities. It has delivered lectures on dietetics and hygiene before groups of prospective and nursing mothers and has given minor medical and surgical treatments. It has helped in the registration of babies and the vaccination of infants after their first month of life. They have demonstrated the preparation of milk formulæ and their proper administration in all cases of artificial feeding of infants at different ages. In Manila the public health nurses made 15,744 visits and gave 538 treatments during 1920 as compared with 21,963 visits and 4,568 treatments in the previous year.

SANITATION IN THE CITY OF MANILA.

The different activities of the division have been carried out with that efficiency and thoroughness which has always characterized its work. The major epidemics have been held in check.

But two diseases of the dangerous communicable type—typhoid and measles—have shown any increase. No epidemic proportion has been reached, however, by either of these. The avenues of infection in typhoid fever, in common with other water borne infections, have been so thoroughly guarded against that no appreciable headway could be gained by it. However, in the early and accurate notification of cases, so very important in the eradicative control of the disease, we are still very far from reaching a desideratum and contact infection has not been given the importance it deserves because of the coexistence in the locality of several types of fevers. Antityphoid vaccine has been administered to contacts and it is very gratifying to record that the more intelligent members of the community have requested to be immunized against the disease.

With reference to cholera, the thoroness with which the carriers were dealt with, and especially since the same importance has been attached to agglutinable as well as to non-agglutinable cases and carriers, the control of the disease has become a comparitively easy task. Anticholera vaccination, adopted as a supplementary measure in the prophylaxis of the disease, was an important addition to our sanitary armamentaria.

SANITATION IN THE PROVINCES.

With the adoption of all the provinces of a uniform system of sanitary organization a great stride has been made in the progress of sanitation in provincial towns. We now count with an element of stability. It only remains to be perfected, especially that provision relating to health funds, in order that it may render its full measure of usefulness to the community. The creation of district inspectors has surely resulted in a more efficient public health service.

The automatic health control is proving its value in checking up undue mortality in any given locality and in detecting therein incipient epidemics. The mortality feature of the year was the continued persistence of malaria in many provinces. It heads the list of the common causes of death and represents over 14 per cent of the total mortality. In spite of the presence of smallpox and cholera in the early part of the year and measles and influenza in several provinces, which were, however, promptly suppressed, the mortality from communicable diseases has been reduced to about one third of what it was last year.

Additional hospitals and dispensaries have been established and their patronage is ever on the increase. Better water supplies are being provided for in many municipalities thru the digging of sanitary wells, the drilling of artesian wells, and the establishment of water works systems.

Little progress has, however, been attained in the installation of waste disposal systems on account of the ever-increasing cost of materials.

SANITATION IN MINDANAO AND SULU.

The sanitary condition in Mindanao and Sulu was satisfactory on the whole. The confidence of the Mohammedan population has been won over to modern public health, altho lack of funds during the last half of the year, was responsible in limiting the number of admissions to hospitals and in discontinuing the sending of supplies to field dispensaries. The reversion of the policy of attraction may be fraught with disastrous results. It is imperative, therefore, that the appropriation for the division should be increased to widen its sphere of influence and usefulness.

The only noteworthy epidemiological feature of the year was the presence of smallpox in three provinces, especially in Misamis where the disease continued unabated to the close of the year. The division was completely free from cholera thruout the year.

The organization remains the same as that of last year, with all the provinces organized into sanitary divisions. The medical personnel was overworked due to their dual capacity of health officer and supervising surgeon or resident physician in places where there are established hospitals. Lack of properly equipped personnel was still the main handicap of the division.

It has been difficult to secure personnel to fill new positions or existing vacancies, but physicians and nurses taking their posts in those remote places should bear in mind their double mission: That of conserving health, and the amalgamation of Mohammedan with Christian Filipinos.

The opening of a training school for nurses this year at the Zamboanga General Hospital, will in part remedy the shortage of nurses in the division and will no doubt contribute to the prosperity and happiness of its inhabitants.

SANITATION OF PRISONS.

Much has been done in the sanitation of prisons. Not so far back as 1906, the mortality in Bilibid Prison, the largest penal institution in the country, was 85.57 per thousand population. Comparing this rate with that for 1919 which was 17.10 and for 1920, 12.80 per thousand prison population, one can appreciate the number of lives saved and the efficiency with which the work has been carried out. The other Insular prisons registered a combined mortality of 30 deaths, the majority being due to tuberculosis of the lungs.

There is a gloomy side, however, to the brillant achievement noted above, which, while it is not directly connected with the sanitation of prisons, does positive harm to those concerned: the present system of bringing pregnant women to the hospital and the custom of bringing children into the prison. Sentence on the above cases should be suspended until after confinement and provision should be made for caring the nurslings outside, preferably in some foundling hospital.

ANTICHOLERA VACCINATION.

The success of aticholera vaccine as a prophylactic against outbreaks of cholera in countries where this disease wrought havoc in times past inspired the Philippine Health Service to adopt this lifesaving discovery as an aid to well established sanitary procedures, especially in those municipalities where in past years cholera appears to have taken a permanent foothold. A committee consisting of Drs. Otto Schöbl, Proceso Gabriel, members, and Dr. J. P. Bantug, chairman, was appointed by the Director of Health for the purpose of preparing the vaccine according to the most approved method, and of studying the dosage, reaction, racial pecularities of the Filipino, if any, etc. The preliminary work was done among the members of the Philippine Constabulary stationed at Santa Lucia Barracks in Manila and the inmates of the City Boys' Reformatory, permission having been first requested and kindly granted by the Director, Philippine Constabulary and by His Honor, the Mayor, city of Manila. The results of these preliminary investigations were embodied in the report of the committee, and as a result of which anticholera vaccination was adopted and an extensive vaccination against cholera was undertaken before the onset of the rainy season, especially in those municipalities where the disease has made its appearance regularly for the past several years. The aim was to immunize about one-third of the inhabitants of each municipality and particularly those who had had the disease or had been contacts in past epidemics. During the past year, 12,615 persons were vaccinated in Manila and 152,226 in the provinces, making a grand total of 164,841.[a]

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[a] These figures are only approximately correct as the provincial data are not complete.

There were slight general reactions noted in a number of cases, occurring within 24 hours after the injection, consisting, in the majority of cases, of a moderate rise in temperature, but seldom reaching above 39°C, aching of the articulations, and in two instances, slight diarrhœa. No marked inflammatory reaction was observed at the site of the injection.

Circular S-6, outlining the procedure to be followed by the health officers throughout the Islands in the application of anticholera vaccination, follows:

PHILIPPINE HEALTH SERVICE.

MANILA, *February 9, 1920.*

CIRCULAR
S-6.

To Chiefs of Divisions, district health officers, presidents of sanitary divisions and others concerned:

Anticholera vaccine has been used with success among the armies in the Balkan War, and is also used at present in Java and Indo-China with satisfactory results. It is the desire of the Philippine Health Service to undertake the vaccination of the people of the Philippine Islands against cholera. Anticholera vaccination, however, will not be made compulsory unless otherwise directed by the Director of Health, but it should be practised as extensively as possible, especially in those places where cholera is endemic, always with a view to a constant, increased use every year.

The following is an excerpt of findings of the Committee on Anticholera Vaccination:

1. Cholera vaccine produces less reaction than that of typhoid.
2. The second injection appears to produce lesser reaction than the first one.
3. The preparation to be used should be a vaccine, which has been killed at 60° C. for one-half hour and carbolized. It should contain 1,000 million per c. c.
4. The dose for healthy adults in the Philippines should be 1,000 million.
5. One injection should be given in case of field vaccination on a large scale. If practicable, 2 injections should be given (500–1,000 million).

Children under 15 years of age should be given one-half the dose indicated for adults. Vaccinated persons should be inspected daily for observation of the sequelæ or reactions following vaccination. They should also be warned as to the nature of the reaction in order to avoid creating a prejudice against anticholera vaccination among the ignorant.

The reaction which follows anticholera vaccination is of local and general character. The local symptoms present themselves as swelling, redness and local pain. General reaction shows symptoms of headache, fever, chills, general malaise, pain in the joints and bones, eventually vomiting and diarrhœa. The temperature curve as registered by various observers is of a peculiar type. Workers, who used large doses, observe a drop of temperature within 4–5 hours after injection. The drop of temperature is followed by a rise which may persist for a day or two. The severity of these symptoms depends on the dose given, although different individuals react to the vaccination with symptoms of various severity. The sensitized vaccine is claimed to produce less reaction than plain vaccine. The statistics collected in various countries show remarkable decrease in mortality, but particularly in morbidity, among vaccinated as compared with non-vaccinated persons (Ref. from C. L. on file). This fact proves that immunity results from the inoculation with cholera vaccine. Furthermore, numerous investigators tested the blood serum of vaccinated persons for the presence of immune bodies and found them to be present from about the 5th day after vaccination up to 10 or 14 months, after which time the immune bodies were no longer present in the blood of the vaccinated persons. It was therefore concluded that the immunity lasts approximately one year after vaccination and the recommendation was made to revaccinate every year those persons who may come in contact with the disease. In connection with revaccination a statement was found in the literature, which may be of practical interest, stating that the dose in revaccination need not be as large as that used in first vaccinated persons, and still produce immunity of an equal degree.

The following conditions are given by various authors as contraindications: albuminuria, glycosuria, febrile conditions, diseases of the heart, beriberi, particularly the wet form, and advanced pregnancy.

In introducing anticholera vaccination in these Islands, it is contemplated to have it as a supplementary measure to such other sanitary measures which have become routinary and have been efficacious in the management of cholera outbreaks. What is especially desired, for the present, is to have it done amongst those portions of the population that fail habitually to maintain personal prophylaxis, and in such localities where endemic or residual cholera is present, or amongst known carriers, contacts, and other persons who have been exposed to contagion. It is planned to inaugurate anticholera vaccination in every province at the earliest possible time, and upon doing so, health officers are enjoined to keep a careful tab on all persons vaccinated, showing name, age, address, reaction (if any) and later, the comparative incidence of cholera among the vaccinated and nonvaccinated. Any further information in the premises should immediately be requested from this office.

(Sgd.) V. JESUS,
Acting Director of Health.

It is gratifying to record, moreover, that no serious outbreak of the disease has occurred since the adoption of this preventive measure. It is not claimed that this satisfactory state of the public health is solely due to the adoption of vaccination against the disease, but the following observations are worthy of note:

That contacts who had been immunized by a dose of the vaccine escaped the disease;

That the towns of Hagonoy, Obando, Malolos, and Bulacan, in the Province of Bulacan, where cholera exacted its toll in lives every year with astonishing regularity, have not registered a single case of the disease since immunization among their inhabitants was begun; and

That in Ilagan, Province of Isabela, Aparri and Tuguegarao, Province of Cagayan, and Cuyo, Province of Palawan, small outbreaks of the disease occurred which were promptly suppressed, thanks to those ordinary measres in epidemic eradication which still constitute the basis of modern anitary practice adopted in conjunction with vaccination.

Thus may be realized the important rôle of anticholera vaccination as an efficient aid to our sanitary armamentaria.

In view of the above observations, the conclusion was drawn that anticholera vaccination had proved a success when used in conjunction with established sanitary measures, and therefore it was recommended that the Legislature appropriate ample funds to assure its continuance.

The report of the Committee follows in full.

PRELIMINARY REPORT OF THE COMMITTEE ON ANTICHOLERA VACCINATION.

The Committee on Anticholera vaccination was established and its members were designated by the following Special Order of the Office of the Director of Health, dated November 10, 1919. The purpose of this committee is evident from the order:

"PHILIPPINE HEALTH SERVICE.

"MANILA, *November 10, 1919.*

"SPECIAL ORDER }
"No. 11. }

"PAR. 9. Doctors José P. Bantug, O. Schöbl and Proceso Gabriel, are hereby designated as members of a committee to determine the advisability of implanting anticholera vaccination in the Philippines as a prophylactic measure against Asiatic cholera, and to seek out the best methods for administering the vaccine. The committee may select, for experimental purposes, any institution under the supervision of this Service, or any locality it may deem as possessing conditions appropriate for the end in view, and may make requests for such personnel and equipment as may be needed in the premises.

"Dr. José P. Bantug is designated as chairman of the committee, and shall issue calls for meetings whenever deemed necessary.

"The designation of Dr. O. Schöbl as member of the committee is made with the consent of the Director, Bureau of Science.

"(Sgd.) V. JESUS,
"Acting Director of Health."

At the call of the chairman, the members of the Committee on Anticholera Vaccination met at the Philippine Health Service Headquarters at 3 p. m., November 12, 1919.

At this, the first meeting, it was decided to hold regular weekly meetings, in which the work of the past week could be discussed and the plans for the next week's work could be outlined. The scope and the procedure in general of the work of the committee were outlined as follows:

a. Review of literature bearing on the subject.

b. Investigations concerning the dosage and study of the reactions and sequelæ in persons inoculated with cholera vaccine.

c. Publicity.

d. Recommendations.

REVIEW OF LITERATURE ON ANTICHOLERA VACCINATION.

The available literature was gathered with the particular view of gaining as much information as possible about the kind of vaccine used in various countries, about the dosage, the sequelæ, the morbidity, and mortality among vaccinated as compared with nonvaccinated, the duration of immunity in vaccinated persons as well as the contra-indications.

The literature, as far as reviewed, gave the desired information. The experiences with anticholera vaccine in many countries became available, such as the earliest inoculations made in Spain, those made in India, Indo-china, Japan, Central Europe, Balkan States, including Greece, Italy, and the isolated vaccinations made in the Philippines some time ago.

Various preparations have been used ever since Ferran first conceived the idea of anticholera vaccination. Generally speaking, the various preparations in use can be classed into several groups. They all contain either live cultures, young or autolized, or cultures killed either by the application of various degrees of heat or by chemicals. Both the live vaccine or the killed vaccine has been used by various workers in sensitized form, that is to say, the vaccine has been exposed to the action of cholera immune serum before use.

The dosage also varies considerably with various authors. Fractions of a c. c. have been used in the earlier period while recently the dosage is gauged by the number of cholera vibrios per c. c. This method naturally has the advantage over the old one, inasmuch as it allows more accurate and uniform dosage. As to the actual number of cholera vibrios given to adults, doses as high as 2,000 million or more have been administered. (See literature about doses recommended.)

The reaction which follows anticholera vaccination is of local and general character. The local symptoms present themselves as swelling, redness, and local pain. General reaction shows symptoms of headache, fever, chills, general malaise, pain in the joints and bones, eventually vomiting and diarrhœa. The temperature curve as registered by various observers is of peculiar type. Workers, who used large doses, observed a drop of temperature within 4–5 hours after injection. The drop of temperature is followed by a rise which may persist for a day or two. The severity of these symptoms depends on the dose given, although different individuals react to the vaccination with symptoms of various severity. The sensitized vaccine is claimed to produce less reaction than plain vaccine. The statistics collected in various countries show remarkable decrease in mortality, but particularly in morbidity, among vaccinated as compared with nonvaccinated persons. (Ref. from C. L. on file.) This fact proves that immunity results from the inoculation with cholera vaccine. Furthermore, numerous investigators tested the blood serum of vaccinated persons for the presence of immune bodies and found them to be present from about the 5th day after vaccination up to 10 or 14 months, after which time the immune bodies were no longer present in the blood of the vaccinated persons. It was therefore concluded that the immunity lasts approximately one year after vaccination and the recommendation was made to revaccinate every year those persons who may come in contact with the disease. In connection with revaccination a statement was found in the literature, which may be of practical interest, stating that the dose in revaccination need not be as large as that used in first vaccinated persons, and still produce immunity of an equal degree.

The following conditions are given by various authors as contraindications: albuminuria, glycosuria, febrile conditions, diseases of the heart, beriberi, particularly the wet form, and advanced pregnancy.

INVESTIGATIONS CONCERNING THE DOSAGE AND STUDY OF REACTION AND SEQUELÆ IN PERSONS VACCINATED WITH CHOLERA VACCINE.

It has been decided by the Committee to use in these investigations a preparation of cholera vaccine which contains dead bacteria exclusively, consequently only two kinds of preparations were considered; that is, the cholera vaccine prepared by the method of Kolle, and the killed sensitized vaccine.

METHOD OF PREPARATION OF CHOLERA VACCINE.

About 10 strains of cholera vibrios, isolated from known cholera patients or persons who died of cholera, and identified as cholera vibrio, were grown on agar medium for 18–20 hours in an incubator at 37° C. The growth was suspended in a definite amount of sterile physiological salt solution and heated at 60° C. for one-half hour.

The number of bacteria was then estimated by Wright's method. Sufficient carbolized salt solution was added to dilute the bacterial suspension so as to contain 1,000 million bacteria per one c. c. and 0.5 per cent phenol.

It was then tested for sterility and filled into glass vials, sealed and labeled.

The sensitized vaccine was prepared in the same way only when finished a measured quantity of it was mixed with an equal amount of cholera immune serum and allowed to stay in the incubator for about two hours, in the refrigerator for 18 hours, then washed three times with sterile carbolized salt solution. After the last washing the sediment was suspended in an amount of salt solution equal to the original amount of cholera vaccine. Thus it contained 1,000 million of killed and sensitized cholera vibrios in 0.5 per cent phenol solution in physiological salt solution.

CHOICE OF PERSONS TO BE VACCINATED.

TECHNIQUE OF VACCINATION AND DOSAGE.

It being the main object of the committee at this stage to study the dosage of cholera vaccine and the sequelæ of anticholera vaccination, it was decided to first vaccinate strong, healthy adult persons, using small doses. The committee was fortunate in securing the coöperation of the Medical Corps of the Philippine Constabulary for this purpose. A letter of thanks and appreciation has since been forwarded by the chairman to Dr. A. Lejano, Captain, Philippine Constabulary, for his lively interest and valuable coöperation.

The persons to be vaccinated were selected beforehand, given a physical examination, their urine examined and temperature taken. All those who showed abnormal findings in urine or elevation of temperature above 37° C. were excluded from the list of persons to be vaccinated the following day.

All persons who were engaged in manipulation of the vaccine or syringes washed their hands with soap and disinfected them with lysol.

The vaccination proper was performed by the use of wholeglass 2 c. c. syringes, armed with platinum needle. The syringe and the needles were first thoroughly cleaned and sterilized by boiling for 10 minutes. Then the ampule, containing the cholera vaccine, was vigorously shaken so as to distribute evenly the sediment which forms in the container upon storing. By tapping the narrow neck of the ampule with the finger the liquid which remained in the neck returned to the bulb of the ampule. The narrow neck of the ampule was then flamed and broken off. Holding the bulb in one hand and using a piece of sterile cotton between the thumb and the first finger of the other hand the danger of cutting the hand is greatly diminished. The broken end of that part of the vial which contained the vaccine was then flamed, the needle introduced inside of the bulb and the contents aspirated. Care was taken to expell all the air bubbles from the syringe before the actual injection was given.

The vaccination proper consists of subcutaneous injection of a definite amount of the vaccine. As a place of injection, the outer surface of the left arm was selected at the height of the deltoid insertion, slightly posterior. The skin was cleansed first with alcohol to the extent of about 5 c. m. sq. and then touched with tincture of iodine.

A duplicature of skin covering the cleaned area was lifted with the left hand fingers and the needle driven quickly through the skin. By slowly pushing the piston of the syringe the desired amount was injected. This finished, the needle was quickly withdrawn and the place of injection slightly massaged with a piece of sterile cotton. No cover or bandage on the point of injection was found necessary. After the first injection the needle was flamed red hot and the second person was vaccinated in the same way.

In order to keep a record of vaccinated persons, individual cards were devised, giving the name, age, sex, temperature before injection, 1, 2, 3, and 4 hours after injection, as well as evening temperature of that day and morning and evening temperature of the next day.

It was deemed prudent to commence with a small dose. The dose given to the first group amounted to 500 million. Since the reactions following this first inoculation proved to be slight in degree the second dose to the same persons was doubled, that is to say, 1,000 million were injected the second time.

The second, third, and fourth groups received one injection only, 1,000 million, 1,250, and 1,500 million, respectively.

In recording the sequelæ of anticholera vaccination, attention was paid to both local and general reactions. The place of injection was inspected, the temperature was recorded, and such symptoms as the vaccinated persons may give were recorded.

It transpired that the local reaction was practically negligible, consisting of slight swelling of the actual point of injection, and sometimes redness and tenderness.

The general reaction is best seen from the following table:

Total number of adults vaccinated		100
Number of persons showing elevation of temperature above 37° C	per cent	56
Slight headache and pains in the joints	do	4
Nausea		0
Diarrhœa		0
Collapse		0
Average rise in temperature		37.3° C.
Average highest rise in temperature		37.6° C.
Highest rise in temperature		38.2° C.

Arranged in groups by elevation of temperature.

Temperature.	37.1°-37.3°	37.3°-37.5°	37.5°-37.7°	38.2°
Number of persons	41 per cent.	8 per cent.	6 per cent.	1 per cent.
	49 per cent.		7 per cent.	

It is evident from these data that the reaction following the anticholera vaccination is mild in degree. It is most likely that the elevation of temperature above 38° C. in one case was due to other causes since the temperature in this case remained practically normal for 24 hours and reached 38.2° C. in the evening of the next day after vaccination; that is, 32 hours after the injection.

One interesting finding was made in the first group of vaccinated persons, namely, the observation that the second injection, although a double dose, produced far less *reaction* in the same individuals than the first one.

Since the preliminary investigations in adults gave satisfactory results as far as the doses and sequelæ are concerned, the next step of the committee was to investigate these conditions in young individuals.

Permission was secured to perform vaccinations in the City Reformatory where inmates between 8 and 13 years of age were vaccinated with cholera vaccine. Acknowledgment and thanks were expressed to the Honorable Dr. J. Lukban, Mayor of Manila, for the permission which he kindly granted to vaccinate the inmates of the Reformatory.

The procedure of vaccination in children was the same as already described in adults with the difference that the first group received 250 million, while the rest of them received one injection of 500 million.

The results of these investigations are evident from the following table:

Total number of children vaccinated	100
Number of children showing elevation of temperature above 37° C ..... per cent.	2
Slight headache and pain in joints	0
Nausea	0
Collapse	0
Average rise in temperature	37.2° C.
Average highest rise in temperature	37.2° C.
Highest rise in temperature	37.2° C.

Arranged in groups by elevation of temperature.

Temperature.	37.1°-37.3°	37.3°-37.5°	37.5°-37.7°	37.7°—38.2°
Number of children	2 per cent.			

No essential difference as to frequency or intensity of reaction was noticed between the sensitized and non-sensitized vaccine or between low doses (500) and double or treble doses. Individual susceptibility appeared to play a more important part than the variation of dosage as far as used.

For the sake of comparison some records of antityphoid vaccination performed in 1913 on Constabulary officers are here given. These records were kindly placed at our disposal by Dr. Liborio Gomez, member of the Philippine Constabulary Medical Corps at that time.

Table showing the reaction following antityphoid vaccination (taken from a report of Dr. Liborio Gomez):

Total number of adults vaccinated		40
Number of persons showing elevation of temperature above 37° C.	per cent	89

Arranged in groups according to the degree of fever.

Temperature.	37°-37.7°	37.7°-38.3°	38.3°-38.8°	38.8° C.
Percentage of persons (typhoid)	62 per cent.	15 per cent.	5 per cent.	7 per cent.

RÉSUMÉ OF FINDINGS AND RECOMMENDATIONS.

1. Cholera vaccine produces less reaction than typhoid.
2. The second injection appears to produce lesser reaction than the first one.
3. The preparation to be used should be vaccine, which has been killed by heat of 60° C. for one-half hour and carbolized. It should contain 1,000 million per c. c.
4. The dose for healthy adults in the Philippines should be 1,000 million.
5. One injection should be given in case of field vaccination on a large scale. If practicable 2 injections should be given (500–1,000 million).
6. The public should be enlightened on the subject by leaflets in plain intelligible language as to the nature of the vaccination and its advantages.
7. Anticholera vaccination should be practiced by physicians in charge of health stations and provincial health officers on cholera contacts.
8. Private physicians desiring to use the vaccine should be encouraged.
9. Sufficient funds should be secured to enable free distribution of anticholera vaccine.
10. The Anticholera Vaccination Committee should continue its existence and should direct and investigate all questions which may arise during the anticholera vaccination campaign. It should be enlarged by at least two young physicians in the Philippine Health Service who could become acquainted with the handling and method of vaccination to be able to help the committee to make investigations on a large scale. All records and observations made by physicians throughout the Islands should be made automatically accessible to this committee so as to enable it to change the procedure, enlarge the doses, and introduce new preparations of cholera vaccine as may be desirable from time to time.

RECOMMENDATIONS FOR AN ISLANDWIDE ANTICHOLERA VACCINATION.

1. Instruction of supervising sanitary officers in the technique of anticholera vaccination.
2. These officials to instruct all district health officers of their respective divisions.
3. The district health officers to instruct the municipal sanitary officers.
4. These last mentioned officials to preform the actual vaccination.
5. In case that vaccination be performed by these officials during an outbreak of cholera, the morbidity and mortality of the vaccinated and

nonvaccinated population should be given. In case that cholera infection occurs in vaccinated persons the date of vaccination and the date of the onset of the disease and eventual death or recovery, should be given. This information is essential for the committee to have in order to study further the effects of the vaccination.

MODERN TREATMENT OF LEPROSY.

A Committee on Leprosy Investigation was appointed by the Director of Health on May 3, 1920, for the purpose of making a thorough investigation of leprosy in the Islands and to ascertain, by careful study and experimentation, which is the most improved and efficacious treatment for the cure of leprosy. So far the new methods of treatment have shown marked improvements, the most important of which are the rapid cicatrization of lesions and the return of motion to stiffened joints, but sufficient time has not elapsed since the new treatments were begun to permit a definite conclusion. At the present writing, however, of the 76 patients treated with the various preparations employed by the committee, eight have become negative clinically and microscopically, and are now undergoing the usual two-year quarantine period previous to their final release. The preliminary report of said Committee, setting forth the procedure followed, degree of success attained, conclusions drawn and recommendations, follows in full:

The Leprosy Investigation Committee was created by Special Order No. 5, dated May 3, 1920, and reads as follows:

"Paragraph 1. A Leprosy Investigation Committee is hereby appointed under the provisions of section 938 (*i*) of the Revised Administrative Code, to meet at Manila from time to time at the call of the Chairman thereof, for the purpose of undertaking investigation in connection with the treatment of leprosy.

DETAIL OF THE COMMITTEE.

Dr. José P. Bantug, Philippine Health Service, Chairman.
Dr. Proceso Gabriel, Philippine Health Service, Member.
Dr. Liborio Gomez, Bureau of Science, Member.
Dr. Granville A. Perkins, Bureau of Science, Chemist, Member.
Dr. Luis Guerrero, University of the Philippines, Member.
Dr. Daniel de la Paz, University of the Philippines, Member.
Dr. H. W. Wade, University of the Philippines and Bureau of Science, Member.

The last five officials from the Bureau of Science and the University of the Philippines are detailed under authority of their respective bureau chiefs.

The members of the Bureau of Science will act as recorders.

The Director of Health and the Director, Bureau of Science, shall be ex-officio members of the committee.

The Committee will meet at San Lazaro Hospital and select from the inmates of the Leper Department thereof such cases at it may think proper for investigation, voluntary submission to investigation being first had from the patient, and if sufficient cases of the class required by the comittee cannot be secured at San Lazaro Hospital, permission will be granted to select cases from Culion Leper Colony who will be transferred to San Lazaro Hospital for this purpose.

The Committee will, at regular quarterly intervals, submit report of transactions and such other communications as may seem pertinent for publication in the Philippine Journal of Science, in the bulletins of this Service, or in other publications authorized by the Director of Health, such publications to be made in the name of the committee. Special reports—bacteriological, chemical, etc.—shall, morever, bear the name of the individual members submitting them.

Special Order No. 1, paragraph 19, dated January 19, 1920, of this Service is hereby cancelled."

At the first meeting of the Committee held on May 8, 1920, at San Lazaro Hospital, it was resolved to recommend the appointment of Dr. S. Tietze, Resident Physician in charge of Leprosy Department, San Lazaro Hospital, as one of its members as he had to take immediate charge of the treatment adopted, and the Acting Director of Health in a special order subsequently confirmed the recommendation.

At this and at subsequent meetings the policy of selecting the patients for treatment was outlined and the forms of the records to be used were discussed and approved and finally ordered printed. The following forms, etc., are used in making the records of each case:

(*a*) History and physical examination card.
(*b*) Charts for graphic record of cutaneous and other lesions and for neurological findings.
(*c*) Treatment card.
(*d*) Temperature and reaction card.
(*e*) Photographs.
(*f*) Cover folder.

SELECTION AND EXAMINATION OF PATIENTS.

The entire group of 76 patients was selected from the patients then at San Lazaro by the committee as a whole. Patients with active lesions of various types, the individuals being of various ages were chosen regardless of the duration or extent of lesions; most cases were of rather long duration, with very extensive involvement. A number of leper employees of the department were included among these even though they were not considered desirable patients from the experimental viewpoint; this was felt necessary on account of the crowding that was to be expected to result from the addition of this large permanent group to the normal accumulation of patients awaiting transmissal to Culion.

The group was then examined physically by Dr. Samuel Tietze and assistants and neurologically by Dr. Elias Domingo, alienist to San Lazaro Hospital, and assistants. Any patient with evidence of pulmonary, cardiac, or renal disease was substituted by a patient in good condition.

The committee then subdivided the entire lot into 5 groups in such a way that those below 15 years, those between 16 and 40, and those above 40 years were approximately equally divided among the five groups. Females were similarly allotted except a number who were already under collobiasis treatment and were assigned to Group E (see below.) At the same time care was taken, so far as possible, to distribute equally those with macular, tubercular and atrophic-anæsthetic lesions.

By far the greatest number of patients (51%) were those with tubercular (nodular) lesions; in the distribution of the individuals the extent of lesion was also taken into account. Duration was not considered; few of the cases were very early altho as a whole these patients, having been but recently apprehended, undoubtedly were of shorter average duration than any other similar group now available for treatment in the Philippines.

The number of patients in each group and classes of treatment administered are as follows:

Sodium gynocardate "A"	(*a*)	13	2	15
Sodium gynocardate "S"	(*b*)	13	2	15
Sodium morrhuate	(*c*)	14	1	15
Chaulmoogra emulsion	(*d*)	9	7	16
Mercado formula	(*e*)	14	1	15
		63	13	76

PREPARATIONS USED.

The preparations employed are those which, according to the latest reports on the therapeusis of leprosy, have given the most promising results and, excepting the Mercado mixture, were prepared by Dr. Perkins, at the Bureau of Science. They are as follows:

1. SODIUM GYNOCARDATE A. ("Hydnocarpate" of Rogers.)
   The sodium salts of chaulmoogra oil fatty acids which have been recrystalized from alcohol. The mixture of acids used melts at about 37° C.
2. SODIUM GYNOCARDATE "S."
   The sodium salts of the total fatty acids of chaulmoogra oil.
3. SODIUM MORRHUATE.
   The sodium salts of the fatty acids of cod liver oil.
4. CHAULMOOGRA EMULSION "S." (Collobiasis substitute.)
   An emulsion containing 0.72 gm. of chaulmoogra oil and 14.4 gms. of acacia per liter.
5. The MERCADO MIXTURE, prepared at San Lazaro Hospital according to the formula:

Camphorated oil, 10 per cent	aa 60 c. c.
Chaulmoogra oil, pure and sterile	
Resorcine	4 grams.
Purified ether	2.50 c. c.

Misce. Sig.: For intramuscular injection.

NOTE.—The ethyl esters of chaulmoogra oil have also been prepared and injections made, which will be discussed below.

METHODS OF ADMINISTRATION.

1. *Intravenous method.*—The veins chosen are either the median basilic or a branch of the saphenous. The place for injection is cleansed surgically, pressured by rubber tourniquet is applied proximally, and the needle is slowly inserted until venous blood enters the syringe, when the solution is injected. The injection is done rapidly, press of work and the frequent nervousness of the patient making this necessary; no serious ill effect referable to this has ever been observed. Except during the earlier period, when doses were comparatively small, the patients have always been injected while lying down, where they are required to remain for a few

minutes. Preparations are always made for emergency medication should necessity for it arise.

The following solutions were given by this method:

(*a*) Sodium gynocardate "A," 3 per cent solution.
(*b*) Sodium gynocardate "S," 3 per cent solution.
(*c*) Sodium morrhuate, 3 per cent solution.

The amount of pain experienced during injection depends on the drug used. The gynocardate "S" gives at times considerable pain, both during and after the injection. The morrhuate generally gives marked pain for a short time after injection. Slight vertigo or flushing may also sometimes be experienced after injection, but despite these effects the patients are usually up and about as soon as permitted, often playing games or attending to ward duties within a half hour or less after the injection.

2. *Intramuscular method.*—This method consisted of injecting the solution deep into the muscle, usually the gluteal or the deltoid. A large calibre needle is used, the material being very slowly injected as the needle was drawn out.

The solutions used by this method were:

(*a*) Mercado mixture.
(*b*) Chaulmoogra emulsion (Collobiasis substitute).

The pain during the injection is marked. The chaulmoogra emulsion gives very little pain after the injection, but the pain due to the Mercado mixture lasts for at least a week, during which time the patient is often quite sick and unable to do his work, at times being confined to bed for two or three days.

3. *The Subdermal method.*—The subdermal method is similar to that used in producing anæsthesia by cocain. The amount of preparation used is usually about five drops. This is injected immediately beneath the skin, causing a temporary blanching. This is repeated in such a way that the entire lesion is covered by a blanched area. This is usually supplemented by a deeper injection of the same lesion, using for this an average of 1 c. c. of the same solution.

This method is somewhat painful during the operation. The patient is not incapacitated one hour after the injection.

4. *Combined methods.*—Combinations sometimes used were as follows:

(*a*) Intravenous with subdermal method.
(*b*) Subdermal method with intramuscular.
(*c*) Intravenous with intramuscular.

FREQUENCY OF ADMINISTRATION.

1. The dose of the gynocardate "A," gynocardate "S," and morrhuate, is given twice a week except when thought contra-indicated in individual cases.

2. The Mercado mixture and chaulmoogra emulsion are given once a week.

AMOUNT OF DRUG USED.

1. *Gynocardate "A" and Gynocardate "S."*—These were begun with a dose of ½ c. c., increasing by ½ c. c. at every injection until at the maximum the patient was receiving 15 c. c. twice a week. This is three times the amount usually recommended by the physicians in India. The average dose now given is about 10 c. c.

2. *Sodium morrhuate.*—The initial dose was ½ c. c., increasing by ½ c. c. at each injection until at present a maximum of 12 c. c. twice a week was reached. This does has also been reduced somewhat.

3. *Chaulmoogra emulsion.*—This is given subcutaneously and subdermally in each lesion, the dose depending on the size and the character of the skin eruption. The average amount is 2 c. c. for two or three lesions.

4. *Mercado mixture.*—Given once a week by the intramuscular method, the initial dose of ½ c. c. was increased by ½ c. c. at each subsequent injections. The maximum dose given is 8 c. c., the severity of reaction preventing further increase.

REACTIONS.

1. *Gynocardate "A."*—This drug gives the least reaction, either immediate or remote. The reaction consisted on one or two occasions of a slight rise of temperature within 12 hours after injection. This was however temporary, the patient being up and about the next day. In one exceptional case the reaction took the form of a severe inflammation involving the lesions and giving somewhat the appearance of erysipelas; and lasting for about a week; after this subsided a marked reduction of the original lesions occurred. This reaction is considered by the workers in India as one of the desired results in the above method of treatment, but has been obtained by them much more frequently and with much smaller doses.

2. *The Gynocardate "S"* gave very little constitutional reaction. In two or three instances patients had slight chills immediately following the injection, but no temperature increase was recorded.

3. *Sodium morrhuate.*—This drug, as has been observed by several physicians in India, frequently causes thromboses of the veins. About ⅓ of our patients receiving this drug developed thromboses which resulted in the obliteration of veins. Constitutional reaction was usually absent.

4. *The Chaulmoogra emulsion* gives very little constitutional reaction outside of a slight local reaction in the lesion itself. The patient suffers no inconvenience one hour after injection.

5. *The Mercado mixture.*—This injection is by far the most painful of all the drugs used, and gives marked immediate and remote reactions. The constitutional reaction is usually in the form of fever and sometimes prostration; the patient may be confined to bed for several days. The pain is always very marked for the first two or three days. The injected area becomes greatly swollen, hot, red, and sensitive to touch. In some instances large indurated and painful nodules can be felt for several weeks after the injection.

RESULTS OBTAINED.

The efficiency of the present treatment of leprosy may be summarized in the following words:

1. *Graphic proof:*
   (*a*) Photographs of lesions before treatment, compared with actual condition of patient.
   (*b*) Charts showing number, location and extent of lesions, areas of anæsthesia, etc.
2. *Clinical proof:*
   (*a*) Gradual disappearance of macules and the return of normal color to the skin, leaving cicatrices only.

2. Clinical proof—Continued.

(*b*) Reduction in size, softening and final disappearance of tubercles, leaving puckered or scarred skin.

(*c*) Return of sensation in anæsthetic areas.

(*d*) Joints become again movable.

(*e*) Recovery of normal force of the once useless fingers.

3. *Bacteriological proof:*

(*a*) Diminution of the number of bacilli in specimens from lesions per microscopic field as compared with that obtained at the beginning of treatment.

(*b*) Breaking up of individual bacilli, indicating disintegration of the germs in large fragments.

(*c*) Where detritus only is shown.

(*d*) Final disappearance of germs from lesions.

4. *Physiological proof:*

(*a*) Increase of appetite of individual patients.

(*b*) Better nutrition as shown by the increased weight.

(*c*) Interest in local fiestas, out-of-door games, etc.

(*d*) Buoyancy of spirit as evidenced by a more hopeful outlook on life.

5. *Therapeutic proof:*

On the basis of clinical improvement, the experiments so far conducted may be said to indicate that we have in the chaulmoogra oil and its derivatives a specific for the disease, and that they prove once and for all the curability of the disease so long regarded as beyond the reach of human endeavor.

NOTE ON ETHYL ESTERS.

The experiments outlined above were designed primarily to compare the Rogers' treatment (or treaments) with the Mercado treatment. Because the French "Collobasis" was being used at the time, a group was included for treatment by this method; it was necessary to prepare an imitation of the drug because of shortage of the genuine article, which is proprietary. At the time this work was begun not enough was known of the value of the Holmann-Dean chaulmoogra ester treatment to justify using it instead of one of the preparations used, or of decreasing the size of the groups in order to make six groups. More recently, however, further information having become available, two lots of the esters have been prepared by Dr. Perkins, one a crude product obtained by esterifying the total acids of chaulmoogra oil with ethyl alcohol, the other a refined product obtained by distilling the first in vacuum.

A few new cases have now been injected, chiefly for the purpose of testing the immediate effect of the drugs. The injections are given intramuscularly, once a week; the doses used have been small; beginning with 1 c. c. and increasing 1 c. c. per week, only 3 c. c. has been reached at the time of this report. It is expected to increase this to about 12 c. c. per dose.

The pain after injecting the crude preparation has usually lasted for about a day, but that following injection of the distilate passes off in a half hour or so.

The reaction after the use of those products has not been observed long enough to permit of generalization. So far as they have been used the following effects have been noted:

(*a*) *Crude.*—Moderate constitutional reaction consisting of mild fever lasting three days, moderate prostration and a local reaction in the form of an eruption situated around the site of injection. There is also marked induration.

(*b*) *Distilled.*—Mild constitutional reaction lasting one day and consisting of a low grade of fever, moderate prostration, and slight induration at the site of injection.

It is intended to select a new group of cases for treatment of the chaulmoogra esters.

CONCLUSIONS.

1. Of the treatments employed, sodium gynocardate "A" has given the best results so far, with 86 per cent of the cases showing some degree of improvement; sodium morrhuate has given 75 per cent improvement, Mercado mixture 64 per cent; Gynocardate "S" 60 per cent and chaulmoogra emulsion about 38 per cent.

2. The sodium morrhuate preparation and the Mercado mixture appear. to have the greater bacteriolytic effect, causing marked pigmentation and, in a few cases, apparent disappearance of the bacilli.

3. In view of the above results, it is certain that there are at hand new methods of treatment which, in the short time that we have used them, have caused remarkable alleviation of the symptoms of this disease, and which if used systematically over longer periods will probably produce permanent cures in a greater percentage of cases treated than any of the methods heretofore available. Five of our patients, after but four months treatment, have apparently become microscopically negative.

RECOMMENDATIONS.

In connection with the recommendations made by the Committee, I have the honor to quote the following paragraphs from a letter from the Committee thru the Director of Health, under date of September 30, 1920, addressed to the Council of Hygiene:

"1. That treatment of almost any disease, leprosy included, is experimental in the sense that it may be susceptible of modification or improvement.

"2. That all treatments for leprosy based on chaulmoogra oil have been successful in a certain percentage of cases, if applied persistently and systematically; and when cures in human beings have been reported from so many different reliable workers in several parts of the world, the application of such treatments could no longer be properly considered experimental.

"3. The number of cures by chaulmoogra heretofore reported has been proportional to the absorbability of the oil and to the ability of the patients to keep up the treatment, and experimentation during late years has been directed only to the question of making the essential elements of this oil more directly available and less irritating. The Committee on Leprosy Investigation is fully convinced from the results reported by others and from the observations clearly made by itself in San Lazaro Hospital that a greatly improved method of treatment is at hand through the application of which it is reasonable to expect a much greater percentage of amelioration and ultimate cures than by any previous method.

"4. In the light of our present actual knowledge, the Committee on Leprosy Investigation believes that the immediate application of a systematic and thorough treatment of all cases of leprosy by the new method is justified. On the other hand, any delay in the commencement of the treatment on the patients tends to lessen their chance to recovery, which is unpardonable from the humanitarian point of view.

"5. That, since the Government sees fit to segregate the lepers for the protection of the community, it also incurs a moral obligation to give every leper all the possible chances for the amelioration of this disease, and this obligation becomes imperative if one considers that present regulations do not permit any segregated leper to contract the professional services of any outside physician, even in places where such a one is available."

In view of the considerations herein set forth, your Committee makes the following recommendations:

1. That one or more of the above methods of treatment be made available for all the segregated lepers in the Philippine Islands.
2. That the present investigation be continued on a larger scale, with a view of further improving the methods of treatment.
3. That a board or committe be created, with ample powers and facilities to carry out this work.

The treatment of segregated lepers has been adequately provided for. The Committee on Leprosy Investigation has recommended to the Legislature the appropriation of ₱600,000 for the purpose, but in view of the depleted state of the Insular Treasury, it was reduced to ₱100,000. The bill, as submitted by the Committee, was as follows:

FIFTH PHILIPPINE LEGISLATURE, }
Second Session. }

HOUSE OF REPRESENTATIVES.

H. R. No............

PREFATORY NOTE.

As a result of modern research, leprosy, which is one of the oldest scourges of the human race and has been regarded as incurable from earliest times, has been definitely proven to be a curable disease. The application of the methods of treatment recently developed will assure a much greater proportion of amelioration and ultimate cure than any method heretofore available.

Chaulmoogra oil is the basis of all useful treatments, the most efficacious of which is the mixture devised by Mercado for subcutaneous and intramuscular injection. By the use of Mercado's mixture 57 cases have been cured and discharged cured, and 22 others are at present undergoing the usual two-year quarantine preliminary to their release.

Dr. Rogers of Calcutta, in his latest report, records the cure of 65 per cent of his cases treated by the intravenous injection of the soluble salts of the oil.

Dr. McDonald, of the United States Public Health Service, reports from Hawaii the cure and parole of 78 out of a total of 235, or 37 per cent of the cases treated by the intramuscular injection of the ethyl ester of chaulmoogra oil, first used by Hollman and Dean.

The Committee on Leprosy Investigation of the Philippine Health Service, on the basis of various published reports and their own experiments, conservatively estimates that at least 20 per cent, or 1,000, of the segregated lepers (5,000) can be cured during the first two years, and progressively greater numbers in the succeeding years.

The attitude of the Government has been fitly expressed by the Governor-General in his Annual Message to the Legislature as follows:

"Since the lepers are isolated by government regulations, and are unable to seek a cure except through our aid, it is clearly the duty of the Government to hold out to them the wonderful opportunity of this new treatment, bringing a promise of redemption to many of them."

To insure the continuity of the work a special appropriation is herewith proposed. It is realized that the plan here outlined is a large one, involving the expenditure of a large sum of money, but it is evident that no haphazard method of treatment will do, nor would it be practicable to treat only a certain proportion of the lepers as it will necessitate discriminate selection of cases, and consequent discontent which may result in open mutiny among those who are not given the improved treatment.

A smaller appropriation would also deny treatment to the newly segregated, especially those coming from the Southern Islands who are in the majority of cases suffering from a benign form of the disease.

The remuneration for the technical and administrative personnel, is relatively higher than in other branches of the government service in order to secure the appointment of competent persons and to compensate them for the work which is repulsive in the extreme and for the isolation which they have to endure.

Good food is an important adjunct of the new treatment and it is planned that a part of the appropriation provided will be expended for the purpose.

The plan to get a sufficient number of physicians, nurses, and attendants corresponds to the necessity of giving each individual case the intensive and systematic professional attention necessary for the success of the undertaking.

AN ACT APPROPRIATING THE SUM OF SIX HUNDRED THOUSAND PESOS AND PROVIDING FOR THE PAYMENT OF THE NECESSARY PERSONNEL FOR THE TREATMENT OF THE SEGREGATED LEPERS IN THE PHILIPPINE ISLANDS, AND FOR OTHER PURPOSES.

Be it enacted by the Senate and House of Representatives of the Philippine Legislature assembled, and by authority of the same:

SECTION 1. The Director of Health is hereby authorized, with the approval of the Department Head, to carry out the treatment of leprosy, by means and methods now available, by employing the technical personnel, equipment and material necessary, according to the terms of the present Act.

SECTION 2. The Director of Health will submit for the approval of the Department Head the appointment of the technical personnel and other subordinates necessary, which shall not exceed 20 amongst the physicians and technicians, 35 nurses, attendants and clerical force, which in the jugdment of the Director are necessary.

SEC. 3. All appointments made according to the terms of the present Act shall not be subject to the rules and regulations of the Philippine Civil Service and may receive the salary designated by competent authority.

Provided, however, That if a government employee is appointed for the purposes of this Act, said employee shall receive an additional daily compensation as hereunder specified; plus subsistence and quarters when the appointee is detailed to a hospital or has to work outside of Manila

Chief	₱15.00
Bacteriologists	15.00
Chemists	15.00
Asistants	10.00
Medical Inspectors	10.00
Physicians	10.00

SEC. 4. The Director of Health shall promulgate rules and regulations from time to time to carry out the purposes of this Act. Such laws and regulations once approved by the Head of the Department shall have the force of law.

SEC. 5. The sum of six hundred thousand pesos, or so much thereof as may be necessary, is hereby appropriated out of any funds in the Insular treasury not otherwise appropriated, to be expended for salaries and wages of the technical and administrative personnel and their subsistence, in the increase allowance for the leper population, in the construction and repair of buildings necessary to carry out the work, such as the purchase of equipment, provisions and miscellaneous and contingent expenses to carry out the purposes of this Act.

SEC. 6. All the laws or sections that are in conflict with the present Act are hereby repealed.

SEC. 7. This Act shall take effect on its approval.

COMMITTEE FOR THE EXAMINATION OF LEPERS.

PERSONNEL.

Dr. H. W. WADE, *Chairman.*
Dr. LORENZO ORDOÑEZ, *Member.*
Dr. PROCESO GABRIEL, *Member.*

PROCEDURE.

The Committee meets regularly twice a month, on the second and fourth Friday afternoons except when holidays or other events cause a change of date, and is subject to special call when necessary.

During the forenoon the hospital staff prepares a list of patients to be examined, classified as a rule under the following heads: (*a*) New cases (*b*) suspects held for re-examination, (these include clinically positive cases of anæsthetic leprosy in which no bacilli have been found, i. e., microscopically negative), and (*c*) known cases sometime positive clinically and microscopically, but now under treatment or negative and awaiting the expiration of the observation period.

The leper department staff makes proper smears from appropriate lesions, and these are prepared for examination before the arrival of the committee. The committee first examines the slides and then inspects the patients. Whenever there is any discrepancy between the clinical and microscopic findings new smears are made, or as is the case when there is any doubt as to whether the condition seen is or is not leprosy, the patient is held for re-examination at the next meeting.

All cases clinically and microscopically positive are entered for transference to Culion.

The negative cases clearly not leprosy are given certificates and discharged at once.

All doubtful cases are held for re-examination until there is no longer reasonable doubt, when the negative cases are given certificates. Rarely a negative case about which there remains some suspicion merely paroled and required to return later for examination.

Cases of inactive anæsthetic leprosy, without demonstrable bacilli, are held as suspects for three months and examined periodically. Usually they are then given modified certificates, but occasionally cases with ulcerations are held longer for treatment.

Cases of leprosy under treatment are examined on request of the patient himself or of any interested person.

As soon as cases of cutaneous leprosy are found both clinically and microscopically negative, or cases with atrophic lesions the result of nerve leprosy are found otherwise negative, they are put on the negative list and are kept under observation for two years. Those that show no clinical evidence of recrudescence of the disease and remain microscopically negative during that period are given certificates. Such discharged cases are supposed to report to their nearest health officer for examination every six months.

Cases known once to have been leprous are inspected particularly thoroughly before they are given certificates.

The function of the committee being simply to determine the diagnosis, and whether the case is active or not, the finer methods of case study are not applied except when the diagnosis remains in doubt. Cutaneous lesions are often held "clinically positive" on the ground of induration, pigmentation or erythema after smears fail to show bacilli, and the observation period does not commence until such signs have dissappeared.

EXAMINATIONS IN 1920.

During 1920 twenty-four meetings were held, as usual. At almost all of them the full committee of three was present.

In the following table the work of the year, totaling 461 examinations, is analysed. It will be seen that 297 new cases suspected of being leprosy were submitted to the committee. From data contained in this table and the original reports, these new cases may be classified as follows:

Positive clinically and microscopically at first examination	244	
Negative, certificate given after one examination		26
Re-examined, with results as follows:		
Positive on second examination	2	
Positive on third examination	1	
Positive on fourth examination	1	
Positive on fifth examination	1	
Negative certificate given after second examination		9
Negative certificates given after third examination		2
Negative certificates given after fourth examination		2
Inactive anæsthetic negative microscopically for 3 months, (includes only all cases first seen in 1920)		8
(Final disposal not given in reports)		1
Total	249	48
Grand total		297

Results of examinations made by the Committee for the xamination of lepers.

Date of meeting.	Examination of new cases.					Re-examination of suspects.					
	Positive clinically and microscopically.	Negative clinically and microscopically. (Certificates issued.)	Held for re-examination.		Total.	Positive clinically and microscopically.	Negative clinically and microscopically. (Certificates issued.)	Doubtful. (To be re-examined.)	Anæsthetic. (Microscopically.)		Total.
			Doubtful.	Anæsthetic negative microscopically.					To be re-examined.	Certificates issued.	
January 9	3	1			4	2	2	1	2		c 7
January 13	4	1			5		1			2	c 3
February 13	7		1	1	9						
February 27	11				11			1	1		2
March 12	7	2			9		1		1		2
March 26	9	2		1	12			1			1
April 9	3				3	1			1		2
April 26	20	2	1		23	1					1
May 14	16		1		17	1					1
May 28	11	2	1	1	15		1				1
June 11	14	2			16		1		1		2
June 25	13		2	1	16				1		1
July 12	7	1			8		1	1	2		4
July 23	11	2	1		14				3		3
August 12	19			1	20		1	1	1	1	4
August 27	8	1			9			1	2		3
September 11	5		1	1	7			1		2	3
September 24	10				10		1		2		3
October 8	10	1	3		14				2		2
October 22	31	2	4	2	39	1	1	2	2		5
November 12	12	1	1	1	15		1	3	3	1	9
November 26	7	2	1		10		4	1	2		7
December 10	6	a 1	1		8		1	1	2	1	5
December 24		b 3			3		1	1	2		4
Total	244	26	18	9	297	6	17	16	39	7	75

Re-examination of treated cases.

Date of meeting.	Positive clinically and microscopically.	Positive clinically negative microscopically.		Doubtful. (To be re-examined.)	Negative clinically and microscopically.		Total.	Grand total.
		Cutaneous.	Anæsthetic.		Under observation.	Certificates issued.		
January 9								11
January 13					2		2	10
February 13	1	2		1		4	8	17
February 27	1			1		1	3	16
March 12			3		1		4	15
March 26	1		1		2		4	17
April 9	4				2		6	11
April 26	1						1	25
May 14	2	1		1	1	1	6	24
May 28	1				2		3	19
June 11	2	1	2	2	4		11	29
June 25	2		1		1		4	21
July 12								12
July 23					2		2	19
August 12								21
August 27								12
September 11								10
September 24			2		2		4	17
October 8					3	1	4	20
October 22	1	1			2	1	5	49
November 12			2				2	26
November 26	5	1		2	1	[d]4	13	30
December 10	2				3	2	7	20
December 24								7
Total	23	6	11	7	28	14	89	461

[a] Paroled, to return for re-examination.   [b] One paroled.   [c] Suspects from last year.   [b] 2 Anæsthetic.

In the re-examination tabulated above 27 suspects were examined 93 times, an average of about 3.5 times per case. Excluding 45 routine examinations on 8 inactive anæsthetic cases, there was an average of 2.5 examinations for each of 19 miscellaneous cases. It will be noted that the figures in the table do not entirely agree with those given here; this is because in the table there are shown examinations of several cases first seen in 1919, while the subsequent examinations of the cases seen late in 1920 could not be included since they fall in 1921.

Lepers under treatment have been examined somewhat more frequently than in the past, and offer more interest because of results of the work of the Leprosy Investigating Committee and of the Culion staff. A total of 89 such examinations were made. On 23 occasions the cases were found entirely positive, 6 times there were remaining clinical evidence of cutaneous leprosy, in spite of negative bacterial findings, and 10 times there was only the damage caused by nerve leprosy. Wholly negative findings were obtained in 27 instances on cases under observation. The table does not show how many of these cases became negative for the first time during this period.

It is of particular interest to note that 14 cases completed their 2-year observation periods during 1920, and were released.

GENERAL OBSERVATIONS.

During the year the examining room has been altered, a new window cut, partitions and screens put in, so that patients can be examined much more satisfactorily than heretofore.

A new card index of patients has been installed which, if properly handled by the clerical force, will facilitate getting information of individual cases.

In this connection attention is called to the present deficiency in recording and following up, in their homes, patients who have been discharged apparently cured. The committee understands that they are supposed to report to their nearest health officer every six months to be examined. It is doubtful if this is carried out. The following procedure should be followed in all such cases: (1) The patient should be given proper instructions in writing, (2) the proper health officer should be notified that the patient is being released, (3) at the end of five months, and every six months thereafter, appropriate letters should automatically be sent both the patient and the nearest health officer instructing them to have the examination made, and (4) the health officer should report in writing to the Central Office, the report being referred to the Examining Committee for its information.

Another difficulty quite noticeable in the past is the frequent failure of the Culion authorities to send sufficient data with a negative case sent to Manila for discharge. It may sometimes be necessary to hold a patient longer than two full years, while waiting for data from Culion.

The question of whether it may not be feasible to adopt a shorter period of observation after a case is negative than 2 years as now required has repeatedly been discussed. Two of the Committee (Dr. Ordoñez and the writer) have held out strongly for the present rule. This rule was established several years ago by a committee of which Dr. Calderon was chairman, and observations on the frequency of recrudescence in cases "cured" by the Mercado mixture are so numerous as to indicate that the time period was well chosen. Such recrudescences often appear after one or even two negative years, and several cases that would now be at large are still at San Lazaro because of the rule. This is not only of advantage from the viewpoint of public welfare, but is advantageous for the patient, who thus receives systematic treatment.

Of course, if after a few years it is found that the new methods of treatment "cure" more positively than the old method, we shall very possibly be justified in reducing the time. But for the present it is not held advisable.

But, since we insist on keeping negative patients for a long term of observation, and since we often hold over cases not clearly diagnosable for further study, we should feel particularly obligated to house such cases decently. The quarters at present available are inadequate, unsuitable, and discreditable to the institution, and steps should be taken to improve conditions at the earliest possible moment.

SANITARY LEGISLATION.

In response to the growing activities of the Health Service, the Legislature has seen fit to augment the health appropriation from year to year. The total appropriation for 1920 was nearly three times as large as that of 1909. Speaker Osmeña of the House of Representatives, said: "The question of sanitation is a problem that merits primordial consideration," and if the various projects of legislation that were submitted to the Legislature have not all received its sanction it was rather due to the depleted condition of the Insular Treasury than to the lack of interest of the Legislature. Speaker Osmeña's recent utterance was very expressive of his attitude on this question and promises untold good for sanitation, chiefly of our provincial towns. He said in part: "As soon as the taxes are revised, the Philippine Health Service will be among the first to receive the support of both houses." The recent action of the Emergency Board in reducing the expenses of the Government to remedy the present money stringency and leaving almost untouched the health appropiation was very significant of their high regard for the mission of the Health Service.

The following Acts relating to public health, were passed by the Legislature during the period covered by this report.

Act No. 2857.—This Act appropriated funds for the necessary expenses of the Philippine Health Service during the fiscal year ending December 31, 1920, in the sum of ₱3,035,694.

Act No. 2885.—This Act amended section 39 of Act No. 1627, providing that complaints for infractions of health laws or ordinances must be indorsed "approved" by the local health officer or the municipal president.

Act No. 2890.—This Act authorizes the Insular Treasurer and the Postal Savings Bank to lend money to the Metropolitan Water District under certain conditions.

Act No. 2897.—This Act amended section eleven hundred and seven of the Administrative Code, reducing the time within which certain bodies of deceased persons may be used for scientific purposes, and for other purposes.

Act No. 2898.—This Act appropriated ₱25,000 for the payment of the land expropriated for the Sibul Springs bathing establishment and repair of the road there, and ₱18,000 for the construction of an artesian well, with tank and pump, at San Lazaro Hospital.

Act No. 2901.—This Act appropriated ₱3,000 for the salary, subsistence, quarters, and laundry, for ten months only, of two additional chaplains at the Culion Leper Colony.

Act No. 2905.—This Act amended Act No. 2633, entitled "An Act Appropriating the sum of One Million Pesos for Certain Work in Relation to the Protection of Early Infancy in the Philippine Islands, including the establishment of *Gotas de Leche,*" and provides for Government aid to be extended to all regular and special provinces for the protection of early infancy on the condition that the province, municipality or district contribute an equal sum, and for the supervision of and carrying out such work.

THE SERVICE PENSIONADOS.

The Pensionado Act, providing for free scholarships in the United States, was availed of by the Service by sending to the United States, several of its officers to pursue post-graduate work along special lines in public health. Three have been appointed during 1920, one to take up the course on Contagious Diseases, Hospital Administration, Establishment and Administration of Tuberculosis Sanatoria, Infant Mortality, and Social Welfare Work; another to pursue a course in Bacteriology and Immunology, Laboratory Technic and courses in Protozoölogy Helminthology, and Tropical Entomology; and one on advanced course in Sanitary Engineering.

One of the 1919 pensionados, who has specialized in vital statistics and epidemiology, has returned during the middle part of the year and has been detailed to organize the newly created Section of Epidemiology in the office of Statistics and Epidemiology. As these pensionados return they will be given responsible positions in the Service, and it is reasonable to hope that a still better coördination of public health activities will be possible, and, provided with an ample appropriation, will place the Philippine Health Service upon a plane comparable with similar organizations in Europe or America.

EXCHANGE SCHOLARSHIP.

It is rather flattering to the service to record the visits of eminent sanitarians and other distinguished medical men. At different periods of the year we have been favored with the visits of representative men from China, Japan, Java, and Siam. They have inquired into the organization of the Philippine Health Service and its varied activities and have inspected the waterworks, the sewer system, the method of waste disposal in provincial towns, and the working of the automatic health control for the detection of incipient epidemics. They admit that many of the health problems which have been successfully solved here are being met with in their own countries, hence the importance of making these studies here with a view to their adoption.

Special mention should be made of the Head of the Civil Medical Service in Netherlands, India, and the Commissioner of Health, Weltevreden, Java, who made a thoro study of our organization and activities, both in Manila and the provinces, and took with them on their return, educational films, slides, pictures, and publications of the service, including samples of insignia and buttons worn by our officers and men.

It is rather a pity that the Government is not at present in a position to have its officials undertake work of this nature. This sort of *post-graduate* study has had its pioneer in Justice Villamor, who, while yet President of the University of the Philippines, visited Japan and other neighboring countries to study their institutions of learning.

When the world shall have regained its economic balance and capital and labor have returned to their pre-war status it may be feasible to establish among eastern nations a sort of *exchange scholarships* for the mutual benefit of the countries concerned. Each may have much to learn from the other.

RÉSUMÉ OF ACCOMPLISHMENTS.

Anticholera vaccination was performed on a wholesale scale in the Philippine Islands without a single accident.

Studies of leprosy were conducted by a second committee with very promising results.

MANILA.

The general mortality rate in the city has been reduced.

The infant mortality rate was the lowest yet recorded in the history of the Bureau.

Smallpox was practically absent and but sporadic cases of cholera occurred.

Antityphoid vaccination was resumed and contacts and food handlers were vaccinated.

The public nursing work has been continued and the scope of its activities enlarged.

The medical inspection division examined 32,532 pupils in the public schools, and 1,237 were treated in the dental clinic.

PROVINCES.

The Islands of Luzon and those of the Visayas have been divided into five health districts of inspection and one district inspector assigned to each.

Four additional provinces—Camarines Norte, Camarines Sur, Marinduque, and Masbate—were organized into health districts, leaving one—Romblon—still in process of organization at the end of the year.

The mortality from communicable diseases has been reduced to about one-third of that of last year.

The usefulness of the health-index in detecting incipient epidemics was verified.

Six vaccinating parties operating in the provinces during the year made a total of 3,222,460 antivariolic vaccinations.

About 2.1 per cent of the population of the Division received anticholera vaccine. While it may yet be early to pronounce a definite judgment as to its efficiency, it may be stated that in the town of Haganoy and Obando in Bulacan Province where cholera has been of endemic occurrence year in and year out were completely free from it. Vaccination has also been used with success in suppressing incipient epidemics.

Antityphoid vaccination was continued.

Three new provincial hospitals have been established in the Mountain Province, one each at Lubuangan, Kiangan, and Cervantes, with a combined capacity of about 150 beds.

Two hundred fourteen new public dispensaries have been established which, together with those in operation at the end of last year, make a total of 867, thus extending medical relief to places hitherto devoid of it.

Six additional laboratories have been established, one in the Province of Tarlac, one in the Province of Palawan, and one each in the Subprovince of Kalinga, Lepanto-Amburayan, Benguet, and Apayao, totaling 30 laboratories in all operating in this Division at the close of the year.

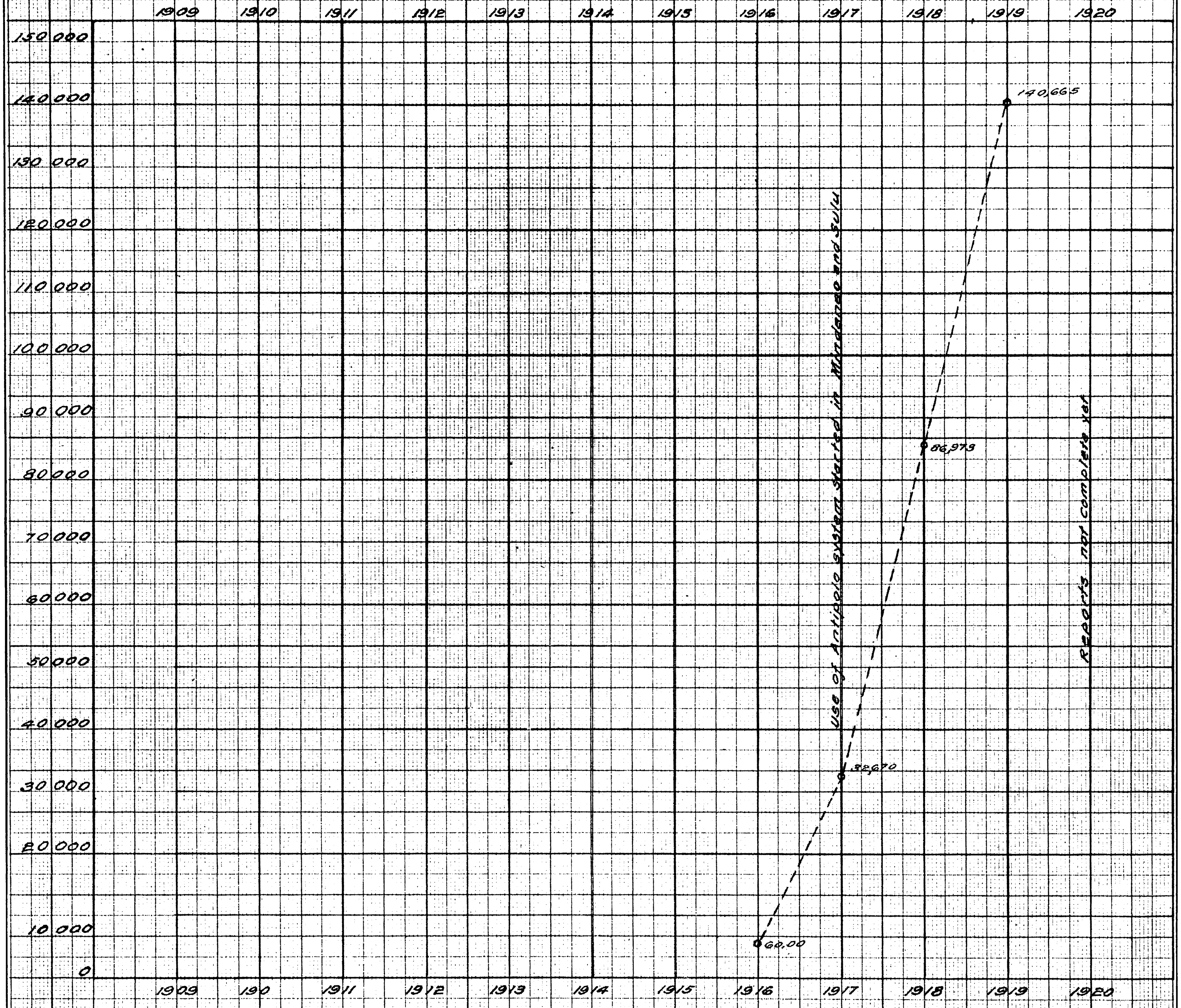
Two hundred twenty-nine artesian wells have been drilled, 4,372 sanitary dug wells perforated, and 30 waterworks established, making in the aggregate a total of 2,646 artesian wells,

PHILIPPINE HEALTH SERVICE

DEVELOPMENT OF THE ANTIPOLO SYSTEM PRIVY

PROVINCES (MINDANAO AND SULU INCLUDED)

1909-1920 INCLUSIVE



Note:-

1 - 1913, Pail system began to be used in town of Antipolo

2 - 1914, 100.000 pails reported being used in provinces

3 - 1915, Antipolo system of privy being tried in town of Antipolo

17,707 sanitary dug wells, and 50 waterworks in use in this Division during the year covered by this report.

About 30,000 sanitary closets in private houses and public buildings were constructed which, together with those previously recorded, make a total of 144,807.

MINDANAO AND SULU.

One new hospital with a capacity of one hundred beds has been opened to the public in the town of Butuan, Agusan.

One additional ward of 50 beds was added to the Zamboanga General Hospital.

The health officers in the provinces examined 316,099 pupils in the public schools.

The Zamboanga Central Laboratory was transferred to the new pavilion, the change resulting in economy and efficiency. With the reorganization of this laboratory it is now possible to make not only routine examinations of blood, feces, urine, exudates, etc., but also serological tests, pathological examinations of tumors, tissues, and the manufacture of autogenous, anticholera and antityphoid vaccines.

RECOMMENDATIONS.

(1) The enactment of the "Proposed Sanitary Code" as published by this Service.

(2) The creation of a "Training School of Sanitation" for commissioned and non-commissioned officers of the Service.

(3) The Presidents of Sanitary Divisions to be classified as commissioned officers in the Philippine Health Service on full-time basis.

(4) The schedule of salaries to be the same as recommended in the Annual Report for 1919.

(5) The Service to furnish uniforms to non-commissioned officers free of charge.

(6) A larger appropriation is recommended for the Philippine Health Service to such an extent that the per capita tax for public health work, for establishing additional hospitals in the provinces, and for the maintenance of field dispensaries, is raised to at least one peso.

(7) Incorporation of provincial and municipal health officers, nurses, sanitary inspectors, and other provincial employees into the general organization of the Philippine Health Service.

(8) The employment of at least one district nurse for each two sanitary divisions.

(9) The employment of at least one sanitary inspector for every 3,000 people.

(10) A more liberal traveling expenses allotment for district health officers, because the health districts require the constant presence of the officers to supervise, verify, correct, and direct the work of the personnel.

(11) That the municipal contribution to the health fund be fixed at 8 per cent of the general fund of the municipality without any exception, and the provincial contribution at 10 per cent of the provincial general fund, also without exception, and the centralization of this health fund.

(12) That the control of public markets and slaughterhouses be placed under the control of the health authorities instead of the municipal treasurers.

(13) That no buildings or houses, either private or public, be permitted to be used, unless they are provided with sanitary facilities.

(14) The establishment of Infectious Diseases Hospitals in the City of Cebu, Iloilo, Tacloban, Lingayen, and Laoag.

(15) The establishment by the Bureau of Labor of emigrant and immigrant stations in which all laborers shall be subjected to a medical examination before allowing them to go to their points of destination.

(16) The organization of commissions composed of a health officer, a sanitary engineer, and a bacteriologist, putting at their disposal sufficient funds to undertake a vigorous campaign against malaria.

(17) The creation of parties composed of a senior sanitary inspector and some carpenters to make more efficient the extension of the Antipolo system for disposal of excreta.

(18) To organize a Traveling Dispensary Unit for service in Mindanao and Sulu, equipped with a gasoline launch sufficiently large to accommodate its personnel,—one physician, 2 nurses and the necessary attendants, as well as its supplies and equipment, the cost thereof for the first year, including the purchase price of the launch (₱30,000), to be about ₱100,000.

(19) It is further recommended that more healthmobiles be purchased for the Service, especially to extend health education and medical relief to the more remote places which hitherto have not enjoyed the privilege of such services.

V. JESUS,
Director of Health.

The Honorable,
the SECRETARY OF PUBLIC INSTRUCTION,
Manila.

REPORT OF THE DIVISION OF GENERAL INSPECTION AND HOSPITALS

(Assistant Director of Health, VICENTE DE JESUS, *In Charge.*)

DIVISION OF GENERAL INSPECTION

COUNCIL OF HYGIENE.

PERSONNEL.

Dr. FERNANDO CALDERON, *Chairman.*
Dr. L. LOPEZ-RIZAL, *Secretary.*
Dr. JOSÉ ALBERT, *Member.*
Mr. TOMAS EARNSHAW, *Member.*
Mr. L. TORRES, *Member.*
Dr. BENITO VALDEZ, *Member.*
Dr. GERVASIO OCAMPO, *Member.*

The council of Hygiene held 36 sessions during the year, 8 of which were ordinary sessions and 28 extraordinary, the latter including two inspection trips made by the Council to the provinces of Tayabas and Nueva Ecija to investigate the causes of the increase of infant mortality in said provinces. The following subjects were considered and acted upon by the Council:

The annual message of the President of the Council of Hygiene, outlining the scope and character of the activities of the Council for the present year was read. The advisability of sending a committee to India to study the Roger's treatment of leprosy, the appointment of a committee to investigate and study the treatment and cure of leprosy, and a proposed law to appropriate funds to continue the study of leprosy were approved. Provincial leprosaria, both from a medico-social and scientific viewpoint, were considered and after a lengthy discussion it was decided to hold the matter in abeyance pending further study and investigation. Increases in the appropriation for rations of lepers at the Culion Leper Colony and in the number of physicians at Culion to attend the leper patients were recommended, and a scientific menu for the lepers, approaching a balanced diet as nearly as possible within the limits of the small sum appropriated for the purpose, was prepared and approved. The Council in a body visited the Tondo slaughterhouse and found it in a good sanitary condition and that it was being operated in a cleanly and sanitary manner. The proposed amendments to the law regulating the profession of nursing were disapproved and the proposed amendments to the salary law increasing the salaries of officers and employees in the Philippine Health Service and the plan for the reorganization of the Central Office of the Philippine Health Service were approved. The advisability of establishing a bacteriological laboratory by the Philippine Health Service and of contracting for the services of a man of large experience in laboratory work and in administration of health activities was considered and after fully investigating the present facilities for carrying on laboratory work by the Bureau of Science, the Council was of the opinion that the present laboratory facilities of said Bureau are adequate for the purpose. The rating of examination papers for promotion of officers in the Philippine Health Service to be based on practical scientific sanitation rather than on a mere theoretic basis, was approved. At the request of the Board of Pharmaceutical Examiners and Inspectors, the Council rendered an opinion to the effect that the present regulations of said Board governing the sale of anticonceptional medicines and devices were adequate for the purpose. The establishment of venereal clinics was favorably recommended. The Council in a body made a trip to the provinces of Tayabas and Nueva Ecija to investigate the causes of the high infant mortality in these provinces, the results of which showed that it was due to an epidemic (?) of beriberi among infants under one year of age, and a liberal distribution of tiqui-tiqui extract was recommended to check the epidemic (?). The proposed law to establish a "School of Graduates in Sanitation" was considered and discussed at length without taking final action thereon.

The following committees were appointed to study the subjects assigned to each and make recommendations thereon:

Dr. Albert and Mr. Diaz, to study the creation of a Department of Health and Charities and the reorganization of the Central Office of the Philippine Health Service.

Drs. B. Valdez and G. de Ocampo, to study the reorganization of the provincial and municipal health service.

Dr. J. Albert, to study the cure and treatment of leprosy.

Dr. B. Valdez, to study a plan to establish venereal clinics in Manila and in the provinces.

Dr. G. Ocampo, to submit a report on anticonceptional medicines and devices.

Dr. L. Lopez-Rizal, to prepare and fix a scale for the rating of examination papers for promotion of officers in the Philippine Health Service.

The following appointments were made:

Mr. Luis Torres as member of the Council, vice Mr. Diaz, who resigned.

Dr. L. Lopez-Rizal as Secretary of the Council, vice Dr. M. Gomez, whose five-year appointment had expired.

MISCELLANEOUS.

During the illness of the President of the Council of Hygiene, Dr. Albert was appointed president, *pro tempore*.

COMMITTEE FOR EXAMINING TUBERCULOSIS CASES.

PERSONNEL.

Chief, San Lazaro Hospital (Dr. A. CATANJAL), *Chairman*.
Dr. PROCESO GABRIEL, *Member*.
Dr. SAMUEL TIETZE, *Member*.

Only three persons were examined for tuberculosis during the year, who were all found to be incipient cases of tuberculosis and recommended for admission to the Tuberculosis Ward of the Baguio Hospital.

COMMITTEE FOR EXAMINING MENTAL AND NERVOUS DISEASES.

PERSONNEL.

Chief, San Lazaro Hospital (Dr. A. CATANJAL), *Chairman*.
Dr. ELIAS DOMINGO (San Lazaro Hospital), *Member*.
Medical Inspector, Health Station No. 2, Meisic, *Member*.

No work was performed by this committee during the year.

BOARD OF PHYSICAL EXAMINATION.

PERSONNEL.

Dr. J. M. RAYMUNDO, *Officer in charge, Health Station No. 1, Intramuros.*

During the year 1920, 1,250 physical examinations were performed, the great majority of which were candidates and appointees for Civil Service position. Among the appointees, one was reported as having been found underweight and another one as underweight and underheight. Two underweights were reported among the 358 applicants for Civil Service examination.

Physical examination of medico-legal cases were also performed on request of either the court, fiscal's office, or Police Department, and consequently legal certificates were issued.

Eleven candidates for retirement were examined during the year, of which six were found temporarily unfit and the rest permanently unfit. In some cases it was found hard to decide the condition of patients as to whether he should be considered as permanently or temporarily unfit, as there is no definite rule to govern and classify the disabilities and diseases which should be considered as temporarily or permanently disqualifying a person for service. It is suggested that proper rules be issued to this effect, and that the decision of the Board be made final and permanent.

It is further suggested that a proper room be set aside exclusively for physical examination. The room actually used is inappropriate to make accurate diagnoses due to the fact that it is never free from outside noise, and does not properly protect the stripped candidates from indiscretions from without.

The following table shows the number and kind of examinations made and the results:

Physical examinations made during the year 1920.

Kind of examination.	Total.	Underweight.	Underweight and height.	Temporarily unfit.	Permanently unfit.
Appointment, C. S.	836	1	1		
Application, C. S	357	2			
Apprentice, B. P.	5				
Surveyor, B. L	7				
Prison guard.	1				
Assistant Sanitary Inspector	1				
Pensionado	1				
Nautical	1				
Medical.	1				
Request for examination.	29				
Retirement	11			6	5
Total	1,250	3	1	6	5

EXAMINING BOARD OF EMBALMERS.

PERSONNEL.

Dr. MANUEL GOMEZ, *Chairman,*
Dr. J. P. BANTUG, *Member,*
Dr. FELIPE ARENAS, *Member.*

The Examining Board of Embalmers met in the city of Manila on February 16, 1920, for the purpose of examining five candidates who desired to practice embalming in the Philippine Islands. Of these five candidates, 3 passed the two examinations, both theoretical and practical.

In rating the papers, the Board has, as usual, given the maximum of fifty points for the theoretical questions and fifty for the practice consisting of embalming a dead body, 70 points having been considered as the required minimum for a passing grade.

In this connection the Board has noted that the candidates have rendered better written composition in this examination than in previous ones.

Proper certificates, signed by the Director of Health as recommended by the Examining Board of Embalmers, good for one year, were issued to the three candidates who passed the examination.

EXAMINING BOARD OF MASSEURS.

PERSONNEL.

Dr. FELIPE ARENAS, *Chairman.*
Miss SOCORRO SALAMANCA, *Member.*
Mr. T. SUGIMOTO, *Member.*

The Examining Board of Masseurs is composed of Dr. Felipe Arenas, Chairman, Miss Socorro Salamanca and Mr. T. Sugimoto, Members. Two examinations were held during the year, one on January 15, the other on July 1, in the Philippine General Hospital.

The examination consists of practical questions and practice of massage before the Examining Board.

Each member of the Board should give an average rating for each candidate and the total of the three average ratings should be divided by three and this will be the average rating of the candidate's examination. Seventy per cent is the passing average rating and 100 is the highest percentage.

The Board always meets before and after the test of the candidates.

FOOD INSPECTION.

PERSONNEL.

Dr. S. V. DEL ROSARIO, *Assistant Director of Health, Chairman.*[1]
Mr. JOHN RIDER, *Member.*
Dr. G. A. PERKINS, *Member.*
Mr. F. J. BROWN, *Member.*

The Board of Food Inspection held semi-monthly meetings to pass upon questions arising in connection with the enforcement of the Food and Drugs Act and to receive protests against any action taken in its administration.

Of importations of foods of which samples were submitted to the Bureau of Science for examination, 119 were admitted without change of label, 29 were admitted on amendment of label; 14 (canned salmon) were admitted on condition that they were sorted and all "swells" found destroyed; and one was rejected because it was found to be rancid and unfit for human consumption.

The following tabulations show the work done by the food inspection department during the year:

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[1] Dr. S. V. del Rosario was appointed Assistant Director of Health, effective January 24, 1921.

Samples of foods and beverages submitted to the Bureau of Science for examination.

Samples submitted for examination.	Number.
Aerated waters	543
Drinking water	347
Foods	1,239
Malt liquors, wines, whisky, etc.	71
Milks	88
Total	2,288

Food found unfit for human consumption, condemned and destroyed.[1]

Kind of food.		Number of units condemned.
Apple butter	tins	12
Apples	cases	21
Apricots	case	1
Bacon	cases	10
Beans	do	8
Blackberries	tins	20
Canned and bottled goods	pounds	400
Cheese	cases	6
Cheese	number	36
Cherries	cases	6
Cherries	tins	38
Cuttle fish with squibs	do	191
Fish in olive oil	do	42
Fish in tomato sauce	do	6
Grapes	cases	9
Ham	do	25
Jams, assorted	case	1
Jelly, guava	tins	4
Milks	cases	227
Mutton with fish	tins	38
Onions	sacks	421
Oyster sauce	bottles	9
Peaches	cases	3
Peaches	tins	17
Pears	cases	15
Peas	tins	1,261
Peppers (Tell's)	cases	4
Peppers (small)	tins	39
Pineapple	do	12
Pork sausage	do	93
Roasted beef	do	3
Roasted mutton	do	35
Salmon	do	7,953
Salmon	cases	18
Sardines	tins	2,417
Sardines	cases	1,351
Sauced fish	tins	100
Sauced partridge	do	6
Sausage casings	cases	256
Sausaged meat	do	2
Shrimp paste	bottles	35
Squash	tins	2
Spinach, Libby's	do	6
Stewed beef	do	7
Stewed codfish	do	281
Stewed fish	do	20
Stewed kid	do	33
Stewed tripe	do	46
Strawberries	cases	5
Sugar corn	do	7
Sugar corn	tins	40
Tomatoes	do	152
Turnips, Libby's	do	13

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[1] Estimated value of foods found nufit for human consumption and destroyed, ₱60,310.

In addition to the above samples, a large number of samples of foods and beverages was also submitted for examination by the Bureau of Science, by the health officers in the provinces.

The total fines imposed by the courts during the year for violations of the Food and Drugs Act amounted to ₱389.

Examination of a large number of samples of cakes, pies, and pastries in general showed that artificial coloring of these products was extensively resorted to by using permitted yellow coloring matter, the obvious purpose of which was to simulate the presence of egg in these products, although the explanation given by most of the bakers and venders of these products was that the addition of the coloring matter improved the appearance and increased the sale of the products. A circular relative to this matter was distributed among the bakers and venders of cakes, pies, and pastries in general, notifying them that the use of yellow coloring matter in such products for the purpose of simulating the presence of egg was prohibited by the Food and Drugs Act and warning them that in all cases where yellow coloring matter should be found in any of these products in the future, the responsible parties would be recommended for prosecution for violation of the Food and Drugs Act. This warning practically put a stop to this abuse.

The venders of *sorbetes,* including refreshment parlors, venders of fresh milk, and manufacturers of aërated waters still required considerable attention to keep impurities out of their products and to keep them up to standard requirements, but considerable improvement was noted in these industries over the previous year.

There was a notable reduction in the number of cases of the sale of vinegar below standard, of the sale of dilute acetic acid for genuine vinegar, of failure to comply with the net weight requirement of foods in package form, of watering fresh milk, of condiments below standard, of foods in package form improperly labeled, and of adulteration of liquors and wines; but a considerable increase was noted in the number of cases of failure to pack canned fruits proceeding from China in accordance with the requirements of Administrative Decision No. 144 of the Food and Drugs Act, and measures were under way at the close of the year to bring these products up to standard requirements.

A thorough survey of all lard proceeding from China, both that on the Manila market and importations of lard arriving at the Custom house, was made, but no adulteration or misbranding was found, all samples of lard examined having been found to be up to standard, or as nearly so as could reasonably be expected.

PROVINCIAL CEMETERIES.

The following comparative table shows the operation of cemeteries during 1920, as compared with the previous year:

	1919	1920
New cementeries approved	73	75
Old cemeteries approved	7	1
Old cemeteries reopened	52	16
Total	132	92
Old cemeteries closed	45	29
Extension of time granted	27	12
Enlargements approved	16	9
Proposed new cemeteries disapproved	5	4
Cemeteries reported as being insanitary	23	21

DIVISION OF HOSPITALS.

This division includes the following hospitals:

INSULAR.

Baguio Hospital, Mountain Province.
Bayombong Hospital, Nueva Vizcaya.
Bilibid Hospital, Manila.
Bontoc Hospital, Mountain Province.
Culion Leper Colony Hospital.
Cuyo Hospital, Palawan.
Iwahig Penal Colony Hospital, Palawan.
Kiangan Hospital, Mountain Province.
San Lazaro Hospital, Manila.

MINDANAO AND SULU.

Butuan Public Hospital.
Cotabato Public Hospital.
Davao Public Hospital.
Lanao Public Hospital.
Misamis Provincial Hospital.
Rizal Memorial Hospital.
San Ramon Penal Colony Hospital.
Sulu Public Hospital.
Zamboanga General Hospital.

PROVINCIAL.

Albay, Albay.
Naga, Camarines Sur.
Tacloban, Leyte.

BAGUIO HOSPITAL.

HOSPITAL PERSONNEL.

CLASSIFIED SERVICE.

1 Acting chief.
1 Superintendent and cashier.
1 Pharmacist.
1 Chief nurse.
7 Nurses.
1 Clerk.

UNCLASSIFIED SERVICE.

1 Cook.
1 Assistant cook.
1 Gardener.
9 Male helpers.

GENERAL REMARKS.

The accommodations of this hospital, including the cottages, until the beginning of March, consisted of about 60 beds, which included the pay and charity beds. Due to the increased demand for hospital accommodation during the hot season, which begins in March and lasts till the end of June, the capacity of the hospital was increased to 76 beds. Despite this increase, patients were still clamoring for admittance and many patients applying for admittance were turned away daily, due to lack of accommodation.

Although the privilege of government employees and their families of free medical service in the hospital was abolished, the pay sections of the hospital were always crowded. This shows that the Government employees still continue to come to the hospital for medical treatment and that the well-to-do class now realizes the benefits which may be derived from medical treatment in a modern hospital.

The above facts show conclusively that the enlargement of the Baguio Hospital, in order to meet the needs of the increasing population of Baguio and for the accommodation of patients from the near-by provinces, is urgently necessary, especially during the hot season.

The kind of service which a hospital renders depends largely upon the efficiency of its medical and nursing staffs, and with this end in view, everything has been done to inculcate the rules of discipline and the spirit of devotion to duty among the personnel and other employees of the hospital. The rules affecting the care of patients and the social life of the nurses have been strictly enforced.

MISCELLANEOUS.

During the year, there were admitted to the hospital 855 cases, out of which 454 were medical cases, 167 surgical cases, 69 obstetrical cases, 160 pediatrics, and five cases of eye, ear, nose, and throat.

The 454 medical cases, as compared with 293 cases admitted during 1919, show an increase of 161 or 54.94 per cent over that year. There were four important diseases observed this year, namely:

1. Typhoid fever.
2. Influenza.
3. Dysentery.
4. Malaria.

Typhoid fever.—The cases of typhoid fever appeared as sporadic cases, some of them coming from the subdistrict of Benguet outside of the City of Baguio and others from the near-by provinces. During the year, 22 cases of typhoid fever were admitted to the hospital, of which three died, or a death rate of 13.63 per cent. One was admitted in a hopeless condition and died of general peritonitis a few hours after admission, one died of pneumonia complication, and the other of severe toxemia.

Influenza.—During the year there was observed one form of this epidemic, vulgarly known as "trancazo." It appeared in October, apparently benign in character. No death was registered. Circulars on "How to avoid trancazo" were posted in public places and the chiefs of bureaus and offices were interviewed on the matter. Fortunately, the epidemic was stamped out right away, registering only 6 cases in November as against 22 cases in October. Every effort in the way of isolation was made which apparently helped to a great extent in stamping out the epidemic.

Dysentery.—This included both amœbic and bacillary dysentery. There were 52 cases admitted during the year. These were sporadic cases. Six deaths were registered, or a mortality of 11.53 per cent. The principal treatment administered consisted mainly of emetine hydrochloride injections and ipecac for amœbic dysentery, and anti-dysenteric serum of the Bureau of Science for the bacillary type.

Malaria.—This included both acute and chronic forms. There were 21 cases admitted during the year, the majority of which were natives coming from Bontoc to Baguio in search for work. While on their way, or while in Baguio they developed malarial fever. Baguio, as a whole, is free from malaria.

None of the above diseases were of an alarming character, as the greater number of them seemed to have been introduced from without.

Contagious diseases.—There were 28 cases of contagious diseases admitted to the contagious diseases department besides 49 cases of pulmonary tuberculosis admitted to the tuberculosis cottages. The five deaths among the latter were cases in advanced stage when admitted.

The statistics of this hospital may be found under General Statistics.

During the year there were 167 surgical cases, of which 70 were operated on, there being 24 major and 26 minor operations—an increase of 14 major operations over those performed last year.

Admission of patients.

Remaining in hospital January 1, 1920	24
Admitted during the year	831
Total	855
Discharged during the year	837
Remaining January 1, 1921	18

The total of 831 patients admitted during the year represents an increase of 148 patients, or 21.67 per cent over the number of admissions in 1919.

There were 51 births and 37 deaths in the hospital during the year, the latter being included in the number of discharged.

The increase in the number of patients admitted to the hospital seems to be due to the fact that the people are learning to take advantage of the facilities of the hospital for the curing of diseases and healing of injuries. The confidence of the people, particularly among the natives (Igorots), has increased as shown by the increase of 21.67 per cent over the number of admissions in 1919. This seems to give some credit to the efficiency of the service of the hospital and preventive measures in the way of education in health matters and sanitation. The number of patients visiting the hospital clinic shows an increase over that of last year. The number of surgical dressings is less than that of last year. This is probably due to the establishment of a free dispensary in the City of Baguio. By glancing over the work accomplished during the year, it appears to be about the same as that accomplished last year.

Ninety-two and eighty-seven hundredths per cent of the patients treated in the hospital were Filipinos, the majority of them being charity cases. Two-thirds of the hospital cases were males.

Income during 1920.

Accounts receivable, January 1, 1920		₱1,266.19
Income during the year:		
Sales income	₱108.40	
Service income	11,564.55	
Miscellaneous receipts	.25	11,673.20
Total		12,939.39
Collections during the year		11,757.28
Accounts receivable, January 1, 1921		1,182.11

The average cost of subsistence per person per day during the year 1919 was ₱1.07 as compared with ₱1.09 during the present year. It is believed that the increase is due to the high cost of foodstuffs. Every effort is, however, exerted to bring down the figure.

The slide in front of the hospital has shown no signs of further endangering the hospital site during the year, but during the last earthquake in October, 1920, the main building showed a greater degree of shaking than the other buildings on the same hill.

In view of the expected transfer of the hospital, the buildings have not been painted, nor any extensive or important improvements made during the year.

The present hospital personnel is working without friction as it has done in previous years and has shown greater efficiency during the year. The result of the year's work has been satisfactory in most respects.

SANITATION, CITY OF BAGUIO.

Upon his appointment, the acting chief of the Baguio Hospital also assumed the duties of City Health Officer of the City of Baguio.

During the year a city dispensary for free patients of the City of Baguio was established. It is maintained by the city. It is housed in one of the Government cottages located in the center of the city, making it accessible to everybody that needs free medical or surgical treatment. It was opened to the public on July 13, 1920. In connection with this clinic, a small pharmacy was also established. Common and emergency medicines are constantly in stock in this clinic. Its establishment has helped economically and materially to a great extent the Baguio Hospital. Since the city authorities are giving unlimited support to it, this clinic is bound to give for years to come greater facilities to the needy ones of the City of Baguio, both in advice and medical treatment.

It is one of the most important steps made in the city for the prevention and cure of human ailments. Its main lines of activity are the rendering of free medical and other appropriate services for those that come to its doors; the giving of advices and services to expectant and nursing mothers; weekly or bi-weekly house-to-house inspections in the city by the city nurse. The city nurse, under the instruction of the city health officer, performs the "follow-up" work of patients who have been discharged from the hospital and who need further care and advice.

From August to November, 1920, the following schedule for free medical services was in force in this clinic:

Mondays	9 a. m. to 10 a. m.	Dr. Cariño.
Tuesdays	2 p. m. to 3 p. m.	Dr. Concepción.
Wednesdays	10 a. m. to 11 a. m.	Dr. Concepción.
Thursdays	9 a. m. to 10 a. m.	Dr. Cariño.
Fridays	2 p. m. to 3 p. m.	Dr. Concepción.
Saturdays	9 a. m. to 10 a. m.	Dr. Cariño.

But on account of the separation of Dr. J. M. Cariño as assistant resident physician from the Baguio Hospital in November, 1920, and the pressure of work in the hospital, the above schedule of the clinic was reduced to three days a week. The nurse, however, held morning and afternoon clinics every day during the week.

Every effort in the line of sanitation has been made to keep Baguio free from any kind of epidemic.

Schools and school children, both government and private, were frequently inspected and the necessary care and treatment given to the sick. Any agregation of people, especially of the laboring class, was constantly watched for the purpose of detecting any outbreaks of any infections or contagious diseases, the occurrence of which was promptly reported to the City Hall Officer for proper action and advice. During the month of October, 1920, an outbreak of influenza was noted in the city. Every effort to isolate the cases was made. It was mild in nature, however, no mortality being registered. Circulars on "How to avoid trancazo" were posted in public places and the chiefs of bureaus and offices were interviewed on the matter. The coöperation extended redounded not a little to the credit of the efficiency of the service, due to the preventive measures taken, such as inspection and isolation of cases.

The pail and garbage systems for the disposal of excreta and refuse were continued, and more pails were purchased in order to meet the increasing demands. Special attention was directed to the sources of water supply of the city. Personal supervision and inspection of the water supply of the city have been and are being made. There are at present four sources of water supply in the City of Baguio, one of which was found unfit for human consumption, except for irrigating purposes. Residents of the city supplied with this latter source of water supply were duly notified and proper advice was given. The other sources of water supply were found satisfactory and are the best water supplies obtainable in the city or its environs. Everything possible has been done to keep these sources of water supplies from being contaminated and to keep them in the best possible condition.

The number of contagious and infectious diseases is about the same as that of previous years and none of them were of an alarming character, as most of the cases appeared to have been introduced from without.

Weekly inspections of the city market were made by the city health officer, the sanitary and the assistant sanitary inspectors. Particular attention was directed towards all kinds of meat, fish, shellfish, fruit, cooked foods, bakery products, candies, and other foods subject to contamination by dust, dirt, flies, and insects or other vermin. All venders of foods were directed to protect them with appropriate wire screens or covers wherever needed. Foods or articles of food found to be unwholesome or unfit for human food were condemned and disposed of.

During the month of August, on account of the apparent unusual number of flies in the city an anti-fly campaign was conducted with apparent success.

Everything possible was done during the period of the Clean-up Week from December 13 to 18, 1920, to make the people of the city "get the spirit." They responded gladly. Baguio, at the end of the week, was in its cleanest possible condition.

With the help of the city authorities and laborers, the city has maintained its reputation as a health resort. The results of these coöperative plans of the city have been highly gratifying.

BILIBID HOSPITAL.

SALARIED PERSONNEL.

1 Chief, Division of Sanitation, Philippine Health Service.
1 Resident physician, Philippine Health Service.
1 Chief nurse, Bureau of Prisons.
1 Pharmacist, Bureau of Prisons.
1 Surgical nurse, Bureau of Prisons.
1 Sanitary inspector, Bureau of Prisons.
3 Practicantes, Bureau of Prisons.
Prisoner assistants, Bureau of Prisons.

Each of the main departments of the prison located outside of Manila is provided with a hospital, an officer of the Philippine Health Service being detailed in charge.

MORBIDITY.

The greatest number of admissions to the hospital from newly arriving prisoners was due to intestinal parasites, ankylostomiasis, dysentery, and drug habits.

The largest number of old prisoners admitted to the hospital was from dysentery, pulmonary tuberculosis, respiratory diseases, and contagious skin diseases.

Of the 4,087 cases treated in the hospital during the year, 2,733 (66.87 per cent) were due to general diseases; 1,249 (30.56 per cent) to amœba and intestinal parasites; and 105 (2.57 per cent) to pulmonary tuberculosis. Of these cases, 93 were Americans and Europeans, 440 Chinese and other Asiatics, and 3,176 Filipinos, and amongst them were 378 females.

MORTALITY.

Computed on the actual number of individuals passing through Bilibid proper, viz.; 7,353, into the deaths actually chargeable to that institution, viz.; 94, gives a general death rate of 12.80 per thousand, of which 5.30 is for general diseases and 7.50 for pulmonary tuberculosis, showing a decrease in comparison with previous years.

Computed on the total actual number of separate and distinct individuals passing through Bilibid, Manila, and all outside stations, viz.; 9,989 prisoners, into all deaths wherever occurring, viz.; 124, gives a general death rate of 12.40 per thousand for the entire Bureau of Prisons, showing a marked decrease of 6.30 per thousand in comparison with that of last year.

BIRTHS.

Six children were born in Bilibid Hospital during the year. Of these 5 were males and one female; two legitimate and four illegitimate.

INTESTINAL PARASITES.

Thirty and fifty-six hundredths per cent of all admissions to the hospital was from intestinal parasites, and in addition to this 653 cases were treated as complications of other diseases, showing a decrease in comparison with previous years. All prisoners entering Bilibid are quarantined from five to ten days, during which time stool examinations are made with the result as shown in the laboratory reports under "General Statistics."

FILARIA.

A total of 1,599 blood examinations were made for filaria. All newly arriving prisoners have their blood examined for diurnal and nocturnal appearing micro-filaria while undergoing quarantine. Of these 1,401 were new arrivals, showing 24 positives, or 2 per cent; 187 were returned prisoners, showing eight positives, or 4 per cent. No cases of filaria are transferred from Bilibid to any outside station. Formerly all male cases of filaria were segregated in a dormitory by themselves and were required to sleep under mosquito nets. This procedure has been discontinued. In view of the fact that the mosquito has been eliminated to a great extent within the prison compound, the medical officers heretofore did not deem it necessary to continue the isolation of filaria-carrying prisoners.

No filarial cases encountered during the present year have shown any pathological effects from filaria infection.

VENEREAL DISEASES.

Gonorrhœa.—Out of 4,255 examinations of urine, 52 were found positive for gonorrhœa. A total of 77 cases of gonococcus infection were treated during the year. All cases of gonorrhœa or those who show gonococcic infection are segregated in a division of the contagious diseases department and held there until free from infection.

Syphilis.—Fourteen cases of syphilis were treated in the hospital during the year. Among those treated in the hospital were primary, secondary and tertiary forms. Fifteen Wasserman examinations were made during the year of which eight were positive.

CHOLERA VIBRIO EXAMINATIONS.

During the year 87,823 stool specimens were examined for cholera carriers. Of this number only one was found to be a carrier. This case was immediately isolated within the contagious diseases section for treatment and remained therein until the same was declared free from cholera vibrio.

CONTAGIOUS SKIN DISEASES.

Two hundred seventy-one cases of contagious skin infections were treated during the year, viz.:

Dermatitis	1
Eczema	1
Elephantiasis	1
Herpes zoster	1
Scabies	71
Skin parasites	4
Tinia imbricata	192

Of these seven remained in the isolation shed at the end of the year.

RESPIRATORY DISEASES.

Respiratory diseases constitute one of the gravest of pathological conditions arising among the prisoners. During the year 110 cases of tuberculosis were treated, of which 63 ended fatally; eighty-eight cases of lobar pneumonia, with 16 deaths; twenty-six cases of asthma and 10 cases of pleurisy, with no death. The rate of mortality from tuberculosis is so high that some steps should be taken to remedy this condition; suggestions are made in the latter part of this report.

DRUG HABITS.

Fourteen cases of morphinism and 168 cases of opiumism were treated during the year. The treatment of these cases has given indefinite results, as in the majority of cases, after discharge from the prison they revert to the same habit resulting in re-conviction and re-admission to the hospital.

BERIBERI.

Twenty-three cases of beriberi were admitted to the hospital, all of which developed outside of the prison walls; of these, 21 cases were cured, one ended fatally and one remained in the hospital at the end of the year. All these cases have been treated by change of diet, tonic of iron, quinine and strychnine, which has given excellent results.

CONTAGIOUS DISEASES.

With the exception of cholera carriers considered in the previous page, 23 cases of contagious diseases were treated during the year. Of these, 15 cases were mumps, 1 measles, 3 varioloid, 3 whooping cough and 1 leprosy, showing a marked decrease in comparison with 1918, and a slight increase over 1919.

MENTAL DISEASES.

During the year there developed within the prison 10 cases of insanity, viz., 1 melancholia and 9 other forms of undetermined insanity. Previously all cases of insanity were committed to San Lazaro Hospital for treatment; this being the only government hospital for the treatment of the insane in the Philippine Islands. During the latter part of 1919 there occurred an outbreak in the Insane Department of San Lazaro Hospital among the prison insane confined therein, which resulted in the death of one guard. The Chief of San Lazaro Hospital Division thereupon returned all cases of insane prisoners held at San Lazaro

Hospital to Bilibid Prison as cured; as a matter of fact, these insane prisoners were in the same disturbed mental condition upon their return to Bilibid Prison as when they were admitted to San Lazaro Hospital for treatment. There is absolutely no place within the prison compound where the insane can be kept. At the present time they are being housed in the cell-house where death-sentenced prisoners are kept and where the gallows is constructed. In every modern prison special provision is made for the proper care of the prison insane, and it is not believed that it is just that prisoners who are sick should receive the treatment that the insane prisoners of this institution are subjected to; neither should the other prisoners who are compelled to work during the day be subjected to the noise of these insane during their hours of rest.

INFLUENZA.

During the year, there were 17 cases of Spanish influenza developed within the prison. None of these cases ended fatally. This was entirely due to the rapidity with which treatment was administered and the proper care to prevent the development of influenza.

DYSENTERY.

During the year there were 110 cases of amœba coli, 4 cases of intestinal amœbiasis, with two deaths, 4 cases of amœbic dysentery and 23 of dysentery—a total of 141 cases, with a mortality of two. These cases developed within the prison, notwithstanding that every precaution is taken in the handling of drinking water.

LEPROSY.

One case of leprosy was found during the year in the person of prisoner No. 12102. The prisoner was immediately transferred to San Lazaro Hospital for treatment.

DENTAL DISEASES.

There were treated within the hospital, 269 cases of dental diseases of which 19 were due to alveolar abscess and 250 to dental caries. During 1920, 5 prisoners were allowed to leave the prison compound for dental treatment, due to lack of apparatus and personnel in the hospital.

OUTSIDE STATIONS.

Thirty deaths were registered during the year at the outside stations. As shown below, eight of these were due to general diseases and 22 to pulmonary tuberculosis.

	General.	Tuberculosis.	Total.
Corregidor	1	8	9
Iwahig	3	13	16
San Ramon	3	1	4
San Lazaro	1	0	1
Total	8	22	30

RECOMMENDATIONS.

Births.—It is again brought to the attention of the authorities, especially judges of the Courts of First Instance, that cases where women are pregnant, especially during the later months, sentence should be suspended until after they have been confined. The present system of bringing pregnant women to the hospital has a bad moral effect, both on the other prisoners and on the mother herself. There is hardly a month in which there are not at least a half dozen confinements within the hospital.

Also, the custom of bringing children into the prison should be discontinued on account of the bad moral influence. This request has been made on many previous occasions, but so far no action has been taken.

It is therefore suggested that the Director of Prisons communicate with the proper authorities to at least curtail this custom.

Tuberculosis.—Due to the high mortality from tuberculosis within Bilibid Prison, an early transfer of all long-term tuberculosis prisoners to the Penal Colony of Iwahig should be made, in this way permitting them to lead an outdoor life, which is impossible within the limits of Bilibid Prison.

Morgue.—The construction of a separate morgue outside the hospital is again recommended. At the present time dead bodies are compelled to be kept within the hospital, in many cases for 24 hours and longer. A morgue, even if only of a temporary nature, outside of the hospital proper is urgently needed.

Hospital.—The construction of the hospital roof should be expedited in order to house the tuberculosis cases at present in this hospital as heretofore. It is now six months since this roof was carried away by a typhoon. The relative slowness on the part of the Bureau of Supply in furnishing material is well known, and mention of this fact is made with the hope of expediting this matter.

Housing of prisoners.—It is imperative that the number of prisoners being housed in the brigades be reduced on account of the continuous increase in respiratory diseases, especially pneumonia. Now that the two new brigades are finished, this can easily be accomplished.

BONTOC HOSPITAL.

The entire personnel of the Bontoc Hospital consists of:

1 Chief.
1 Resident physician.
1 Superintendent and cashier.
1 Pharmacist.
1 Chief nurse.
5 Nurses.
1 Cook.
1 Assistant cook.
1 Seamstress.
1 Gardener.
4 Laundresses.
8 Houseboys.

The hospital was handicapped in the services of its personnel at times during the year. The position of pharmacist was vacant during the greater part of the year; likewise the unclassified personnel (houseboys) was changing from time to time, and to get new houseboys took time. Not only this, but also the hospital has undertaken additional services besides the usual hospital services, as for example, poultry and pig raising and gardening. In view of this, the personnel as a whole worked to its utmost capacity to attain success.

With reference to the position of pharmacist, the fact is that the position could not be filled due to the small salary that is assigned to it, and the position has been vacant since the pharmacist, Mr. José Bañez, left the service in April, 1920.

It is believed that the present personnel of the hospital, with two additional helpers for poultry and pig raising, gardening, and for the new dining room and kitchen, soon to be inaugurated, will be able to handle the work efficiently. The superintendent, who also acts as cashier and property clerk, together with his usual office work, is well familiarized with such services, and will, it is believed, handle the work efficiently. The Bontoc Hospital is advancing step by step, as may be seen from the different comparative statistics following, and the slight increase in personnel requested is, it is believed, justified.

BUILDINGS.

The Bontoc Hospital comprises the main building, the free ward pavilion, service building, doctor's quarters, nurses' home and the new kitchen and dining room building, soon to be completed.

Main building.—The main building comprises the main office, the consultation office (free dispensary), delivery room, pharmacy, operating room, private rooms, and dining room and kitchen.

The kitchen and dining room, however, will soon be transferred to the new building and the place vacated by this transfer will be converted into an office for the district health officer (Chief of the Hospital), and the whole office personnel. The present office will then be converted into a delivery room, after all the necessary repairs and arrangements are made. The present place for the delivery room will then be converted into a pharmacy together with the present small pharmacy room. After the new arrangement is completed, the hospital, it is believed, will be complete in all departments. The private rooms will be away from the noise of the kitchen; the delivery room will be a separate room; the pharmacy will be in a spacious room near the consultation room; and the personnel, classified and unclassified, will then have adequate dining rooms in the new building for the kitchen.

Free ward pavilion.—This pavilion consists of two wings, one for the male patients, and the other for the female patients and children. The normal capacity of this pavilion is about thirty beds, but it may be increased if necessary.

Service building.—This building is a two-story building. The first story is occupied by the laundry and the department for dangerous communicable diseases, the latter being divided into three rooms. In the second story are two storerooms, one commissary room and two rooms for employees. When the new kitchen and dining room building is completed the commissary will be transferred to it and the quarters for the employees enlarged. If the exigencies of the service demand it, one of the rooms in the second story may be used for patients, so that the hospital will have sufficient capacity to accommodate about fifty patients conveniently, including the department for dangerous communicable diseases.

The new kitchen and dining room building soon to be completed, has an allotment of ₱25,000, and the superavit from this allotment, which is certain to result, is intended to be used for the repair and painting of the entire hospital, including the nurses' home and doctor's quarters.

HOSPITAL ATTENDANCE.

As may be seen from the comparative tables given below, it appears that the attendance, both in the inside patient department and outside patient department, has increased. In this connection, it is pointed out that the number of deaths during 1920 is less than those of the previous years in spite of the increased number of patients admitted, thus making the death rate comparatively small. It is further noted from these tabulations that the maternity cases are greater in number than in previous years. Both Christian and Igorot women voluntarily came to the hospital to deliver,—a sign favorable to the mission of this service. It may also be shown that three-fourths of the patients admitted were non-Christians, which shows that the natives have already recognized the advantages of hospitalization of the sick, but it may be further stated that in the whole Mountain Province, *the inhabitants of the town of Bontoc* are the most backward in the matter of hygiene, sanitation, and hospitalization.

The difference between the number of pay and free patients is also given in these tables:

Inside patient department—pay and free patients.

	1916	1917	1918	1919	1920
Number of patients admitted	535	523	696	434	521
Number of male patients admitted	371	375	484	319	344
Number of female patients admitted	164	148	212	115	177
Number of Christians admitted	136	119	143	102	117
Number of non-Christians admitted	399	404	553	332	404
Number of free ward patients	498	492	673	406	440
Number of pay patients	37	31	23	28	81
Number of deliveries	33	18	13	23	28
Number of infants under two years old	13	11	17	10	22
Number of deaths	25	21	21	21	17

NOTE.—Two epidemics of influenza occurred during the year 1918. There were no epidemics during the years 1919 and 1920. Hence the increased number of patients admitted may be attributed to the influenza cases in 1918.

Outside patient department.

Year.	Cases.	Treatments.
1918	2,068	5,395
1919	2,352	7,620
1920	2,609	9,421

NOTE.—The number of outside cases has slightly increased over those of the past two years.

Prescriptions.

Year.	Prescriptions filled.	Average per month.	Average per day.
1917	5,626	468	16
1918	6,002	500	17
1919	5,664	472	16
1920	5,976	498	17

NOTE.—The increased number of prescriptions during the year 1918 is due to the influenza epidemic which occurred twice during that year, and eliminating these cases, comparatively more prescriptions were filled during the present year than in any of the past years.

Comparative fatality rate.

	1916	1917	1918	1919	1920
Admissions	535	523	696	434	521
Deaths	25	22	21	21	17
Fatality rate	.0467	.0420	.0302	.0484	.0326

LABORATORY.

The laboratory of the Bontoc Hospital is well equipped for a provincial hospital so that all necessary routine examinations may be made without any inconvenience. The service rendered by the laboratory has increased during the present year, as may be seen from the following tabulation:

Laboratory examinations.

Specimens.	1918	1919	1920
Urine	25	76	95
Stools	87	66	95
Urethral pus	3	0	10
Vaginal pus	0	0	8
Blood	15	37	52
Sputum	18	20	18
Gastric content	0	1	0
Nose discharges	1	0	0
Total	149	200	278

There was not much income from laboratory examinations as practically all these examinations were made for the inside patients of the hospital, with the exception of a few for the outside indigent patients.

COLLECTIONS, SUBSISTENCE, AND SUPPLIES.

The cost of operating the Bontoc Hospital cannot be very accurately determined, because the supplies, especially the medical supplies, in the stock of the Bontoc Hospital are intended for the Bontoc Hospital and the Subprovince of Bontoc. At any rate, about three-fourths of these supplies are consumed by the Bontoc Hospital. The expenses for subsistence are wholly for the Bontoc Hospital and may be determined as may be seen in the tabular report given below. The collection resulting from the different services rendered by the hospital is also given. Because most of the patients treated, both inside and outside, were indigents the yearly collection is not as large as was anticipated. However, the 1920 collection is far greater than that of previous years, as shown below:

Comparative report of collections and cost of subsistence.

Year.	Pay patients.	Collections.	Patient hospital days.	Subsistence per patient per day.	Cost of subsistence.
1918	23	₱1,625.99	9,270	₱0.50	₱9,351.40
1919	28	1,868.22	8,742	0.44	9,475.43
1920	81	2,306.68	9,539	0.53	10,832.01

The cost of subsistence per patient per day during the year was brought up to ₱0.53 and the slight increase is partly due to the increased number of patients resulting in an increased amount of collections; or it may be attributed to the commissary and subsistence supplies bought locally either in the Government exchange or from the local merchants who charge a certain per cent of profit, whereas on articles bought direct from Manila said profits are eliminated; or it may be due to the fact that the cost of transportation has been increased to about 15 per cent over that of 1918. This increase in the cost of subsistence is also due, in a small degree, to the increased number of patient-hospital-days.

SURGICAL AND MEDICAL SERVICES.

The surgical cases, as shown in the comparative tabular report given below, are few, and most of the cases were medical cases. The hospital services for the inside patients are shown in detail under General Statistics. The statistical report of hospital cases shows that the common diseases treated were malaria, dysentery, chickenpox or varicella, infected wounds, diseases of the eyes, bronchitis, diseases of the stomach, skin diseases, and maternity cases. There was only one case of chickenpox isolated in this hospital during the year which is the smallest number of cases of this disease ever registered in this hospital. Collectively, the epidemic diseases were less in number during the present year than during any year heretofore.

The number of outside patients, as shown in the tabulation already given, was greater during the present year than that of 1919, and there were more outside patients during the year 1919 than during the year 1918.

It should be noted that very few of these patients (both inside and outside patients) are from Bontoc, because this town is the most backward town in the whole Mountain Province in every way.

Major operations were performed only on the inside patients, and minor operations were performed on both inside and outside patients, as follows:

Comparative report of surgical operations.

Year.	Major operations.	Minor operations.
1918	8	122
1919	6	163
1920	9	145

OTHER ACTIVITIES.

Gardens.—Food production has been continued during the year by the cultivation of vegetable gardens on several lots near the hospital, the hospital grounds being sufficiently extensive to permit gardening. Several times during the year no vegetables could be purchased on the market, during which periods the hospital utilized the vegetables from its gardens, thus the value of the vegetable gardens of the hospital was realized. It should be noted that vegetable gardening by this hospital during the present year has been more extensive than during the previous years. Besides the cultivation of vegetable gardens, the hospital also planted a number of fruit-bearing trees, the advantage and value of which will be realized in the future.

Poultry and pig raising.—This work was begun on a small scale in the latter part of 1919 and continued throughout the present year. It is expected, however, that in the future it will be increased and improved, because an allotment of ₱900 for this purpose has been set aside from the superavit of the health fund of the Mountain Province and the work providing for adequate fencing and other necessities is well under way.

It has been thought beneficial that the hospital should also have a flower garden as a matter of ornamentation and mental relaxation for persons interested therein. Accordingly, a flower garden was planned and prepared and flower plants and a variety of ornamental shrubs, etc., planted therein.

Plumbing service, water supply, and sewer service.—These several services have undergone various repairs during the year, but without inconvenience to the service, because all such repairs were promptly made. Likewise there has been no difficulty in the disposal of garbage, because practically the hospital had very little garbage to throw away (only empty cans, paper, sticks, and refuse of no food value), the garbage proper of the hospital having been saved for feeding the pigs.

MISCELLANEOUS.

The superavit resulting from the ₱25,000 allotment for the kitchen and dining room building will be spent for general repairs and painting of the hospital. The remainder of this superavit, if there should be any, together with the superavit resulting from the entire health fund for 1920 of the Mountain Province will be proposed to be expended for the construction of a small building for contagious diseases, such as tuberculosis, mumps, varicella or smallpox, leprosy, etc. It has been estimated that the 1920 superavit of the entire health fund for the Mountain Province will amount to about ₱30,000. One of the rooms of the proposed building will be set aside for a morgue—an important service that has been lacking up to the present time at this hospital.

The operation of the Bontoc Hospital has been fairly successful in all its phases during the present year, with the exception that obstacles were met in the Provincial Treasury where the funds of the health service of the Mountain Province were deposited. These obstacles consisted of delayed payments, refusal of payments of rice not purchased from Government stock, and other minor details, which kept the hospital authorities rather preoccupied in this matter.

RECOMMENDATIONS.

The development and progress of the Bontoc Hospital, as already stated, call for two additional houseboys and are indispensable for properly operating this institution in all its activities.

The need of a contagious pavilion is indispensable and its construction will not call for an additional allotment. The money or superavit from the 1920 appropriation for the health service in the Mountain Province will be converted into a fund for this purpose, and for this reason recommendation in detail cannot as yet be submitted, because the provincial treasurer could not as yet determine the exact amount of the superavit of 1920.

With reference to the hospital funds of the Bontoc Hospital which were deposited in the Provincial Treasury and disbursed by that office, it is suggested that, as in the past years, this office be given a free hand in the manner of disbursing the hospital funds, because interruption in the payment of the hospital expenses, as noted under "miscellaneous," means prejudice to the service and detriment to the patients in the hospital.

It is also recommended that hereafter nurses to be sent to this hospital should understand the Ilocano dialect, as it has been experienced that nurses who do not understand the Ilocano dialect can hardly communicate with the patients. The English language cannot often be used in this hospital because the majority of the natives who are taken ill and brought to this hospital understand only Ilocano or their local Igorot dialect.

It has been observed that the nurses in this hospital have been working steadily eight hours daily without any days off. In view of this fact, it is recommended that out of the six nurses on duty in the Bontoc Hospital, including the chief nurse, one of them may be off duty for the whole day every Sunday in the order of rotation, so that each nurse will have a chance for a whole day's rest every six weeks.

CULION LEPER COLONY.

The routine affairs of the Colony have been conducted during the year in the same manner as in the past years, special attention having been devoted to the following activities:

(*a*) Reorganization of the hospital and outdoor clinics service.

(*b*) Improvement of leper rations as far as the appropriation permitted.

(*c*) Extension of the dispensary service to some of the distant barrios or farming stations for the proper medical attendance of the residents thereof.

(*d*) Organization of a more systematic distribution of leper rations, gratuities, and clothing.

(*e*) Systematic recording and study of all cases for research purposes, giving special attention to those cases under the Mercado treatment.

(*f*) Encouragement of all honest and harmless games and past-time exhibitions, feasts, social gatherings, etc., to allay the mental and spiritual suffering of the colonists.

(*g*) Elimination of such factors as tend to create tribal animosity among the colonists.

(*h*) Rigid enforcement of the regulations governing construction of houses, morality, compulsory public works, and school attendance.

(*i*) Systematic segregation by sexes of all leper children under 18 years of age from the rest of the community, by lodging them in dormitories under the charge of the chaplains of the Colony.

(*j*) Establishment of the visiting physician's service.

(*k*) Encouragement of agriculture, horticulture and development of the fishing industry among the colonists.

With the exception of two escapes of lepers registered in the months of January and May, and two murder cases of two Cebuano lepers, the year 1920 has been a good year for the Colony, which has enjoyed a year of peaceful life. Christmas holiday and Rizal day were celebrated by the lepers with unusual cheer and enthusiasm by holding religious services, athletics, balls, concerts, theatre exhibitions and programs of literary contests, which were attended by big crowds of spectators.

Sanitary conditions have been good throughout the year. Only nine sporadic cases of varicella, with no deaths, most of them among the newly arrived lepers, were registered in June and July. No epidemics have been registered.

Typhoons have had no damaging effects in the Colony as in former years.

The most salient and noteworthy feature of the year was the inauguration of the Culion Radio Station on November 19, 1920. This is indeed, an invaluable improvement which is hoped to help ameliorate the mental and spiritual suffering of the lepers caused by their enforced isolation. With its establishment Culion has been linked with the rest of the Archipelago and has practically solved the much vexed problem arising from the infrequency of the mail since the Colony was established.

PERSONNEL.

CHANGES AND NEW APPOINTMENTS.

The assignment of Dr. José Avellana Basa as Chief of the Colony has been confirmed by the Council of State, effective January 1, 1920.

Dr. Catalino Nicolas was appointed Assistant Chief of the Colony, effective March 30, 1920.

Dr. Pablo Calma, D. S., was appointed as Dentist of the Colony, effective September 29, 1920.

Mr. Victorio Yabot was appointed steward and special disbursing officer, effective January 1, 1920, vice Mr. Cirilo Fama, resigned.

Rev. Father Pedro Viganó was appointed supernumerary chaplain of the Roman Catholic church, effective February 26, 1920, with subsistence and quarters but without salary.

Mr. Antonio Rivera was appointed assistant steward, vice Alfonso Padua, resigned, effective March 1, 1920.

Mr. Adriano Arceo was appointed clerk, vice Mr. Antonio Rivera, promoted, effective April 6, 1920.

Nurse Victoria Taal was assigned for duty in the Colony, effective January 30, 1920, vice Nurse Florencia Urquico, transferred.

Nurses Victoria L. Vicente and Juana Z. Ferreol were assigned for duty in the Colony, vice Nurses Socorro Ordoño and Paula Imperial, transferred, effective April 19, 1920.

Nurse Serapia Candapan was assigned for duty in the Colony, effective November 5, 1920, vice Nurse Victoria Taal, transferred.

ORGANIZATION.

The present organization of this office differs little from that of past years, except in that the technical staff has been increased with one more physician and one dentist. The unclassified personnel remains the same.

HOSPITAL DIVISION.

Leper General Hospital.—On July 8, a new pavilion was inaugurated with accommodations for 60 patients, increasing the hospital capacity to a total of 306 beds. This additional ward is ample, well ventilated and well supplied with water and lighting facilities. With this addition the capacity of the women's wards has been increased to 120 beds, and the capacity of the male wards to 186 beds.

The following tabulation shows the number of patients admitted to the hospital during the year:

Number of patients remaining in the hospital, December 31, 1919	253	
Number of patients admitted	1,217	1,470
Number of patients discharged	793	
Number of deaths	370	
Number of patients remaining in the hospital, December 31, 1920	307	1,470
Death rate, per cent	25.0	

The hospital personnel is composed of two resident physicians, eight sisters of charity, and 62 hospital attendants, among the latter group the employees of the laundry and seamstresses are included.

The hospital is fairly equipped with instruments and efforts have been made to furnish each ward with the most necessary furniture and instruments for the proper operation of same. It is, however, emphasized that two new wards or pavilions are needed to permit the admittance of more patients needing hospital care. This may be accomplished if funds are provided for the construction of the second floor of the old pavilion, as specified in the plan for the Leper General Hospital, which was not constructed because no appropriation had been provided for it.

Out-patient clinics.—The medical and surgical out-patient clinics have been in operation throughout the year.

The following tabulations show the number of treatments rendered in these clinics by months during the year:

Number of treatments given at the Outdoor Surgical Clinic during the year, by months.

	Number of treatments.
January	15,849
February	8,962
March	10,467
April	8,616
May	9,216
June	9,729
July	12,337
August	9,055
September	9,034
October	10,948
November	9,256
December	9,911
Total	123,380

Medical treatments rendered at the Outdoor Medical Clinic during the year, by months.

	Number of treatments.
January	1,305
February	1,365
March	1,478
April	1,134
May	1,023
June	1,426
July	1,171
August	1,356
September	1,769
October	1,382
November	1,409
December	1,259
Total	16,077

Dental Clinic.—This clinic was opened to the public on October 1, 1920, with Dr. Pablo Calma in charge. It has filled a long-felt need of the colonists, but it is regretted that at present its equipment is not as yet complete. It is, however, hoped that during the coming year this difficulty will be overcome. This clinic was open to the public daily and the services are free, except when gold fillings are made, the cost of which is then borne by the patient.

The following tabulation shows the work accomplished in this clinic during the year:

Number of treatments	601
Number of platinum fillings	208
Number of temporary fillings	209
Number of general cleanings	157
Number of surgical operations	17
Number of examinations	85
Number of extractions	154

Balala Dispensary.—This dispensary, which was opened in the latter part of 1919 in Balala for the treatment of the non-leper residents of the Colony, continued its operation throughout the year. Cases treated in this clinic were mostly surgical and of minor character. During the year a total of 193 medical and 1,991 surgical treatments were rendered.

Field Dispensaries.—In connection with the outpatient clinics of the hospital, field dispensaries were established during the year for the care and treatment of those lepers residing in the barrios of Palumpong, Baldad, Guitna and Pilapil, who are engaged in farming and who, while not so ill as to require hospital care are, nevertheless, unable to come daily to the clinics on account of the distance. Two dispensary attendants with sufficient supply of dressings and medicines go to these barrios three times a week and stay there to render such treatments as are needed by the residents thereof. One resident physician visits these barrios, whenever time permits, at least twice a month.

Dressings and medicines are also given to those living in fishing camps for treatment of their minor ailments. These dressings are given to the man in charge of the camp. A total of 11,540 treatments was rendered by these dispensary attendants during the year.

CHAULMOOGRA CLINIC.

This clinic has been in operation as usual, with Dr. Nicolas in charge. Due to the increased amount of work this year, the personnel of the clinic was increased by two additional attendants. During the year there have been administered 36,499 injections of Dr. Mercado's Chaulmoogra Oil Mixture, averaging 700 patients per week. This clinic is still lacking in complete equipment and it is expected that same will be obtained during the coming year. Daily observation to detect improved patients or arrested cases was made a part of the routine work performed by the physician in charge. Several cases have already been reported as negative. Of these cases, nine were released from the Colony and transferred to San Lazaro Hospital for final examination by the Leper Committee and for completion of the required quarantine period before their permanent release.

Visiting physician service.—For the purpose of encouraging the people to take advantage of medical attendance and with a view to detecting any cases of infectious diseases that may occur without being detected, the visiting physician service was established as follows: A physician is detailed as visiting physician for a period of one week, during which time he answers all outside calls, either emergency or ordinary cases, and renders medical relief to each case recorded during his period of duty.

During the year there were 984 such patients, with a total of 1,587 visits made.

CLINICAL LABORATORY.

The clinical laboratory, which in the past year was incomplete, has been greatly improved by the addition of a new Bausch and Lomb microscope and other important equipment.

The operation of this laboratory was put under the charge of Dr. José Mario Alonso in June.

The following tabulation shows the work done by this laboratory during the year:

	Number of specimens examined.
Blood (for B. Hansen)	123
Sputum (for B. Koch)	21
Feces (for intestinal parasites)	12
Urine (Pontine)	8
Total	164

CHILDREN'S HOUSE.

During the year seven children were admitted; two died; six were returned to the Colony as lepers; one was returned for tuberculous meningitis; one was released from the Colony as negative and adopted by relatives in their home town.

Since the establishment of this house up to the present time, 78 children have already been isolated therein; 21 have died; 24 were returned to the Colony as lepers; seven were returned for other contagious diseases; one was released as negative, and 25 remained in the house at the close of the year. According to the above figures the rate per cent of children turned out "positives" after a period of isolation is 31.6 as against 41.5 of children remaining "negative" so far, which is relatively higher than the percentage of children becoming lepers. Said percentage should be higher still if future cases could be isolated under better conditions, and the mortality and morbidity rate from preventable causes other than leprosy could likewise be reduced to a minimum. But the segregation of untainted children from leper parents has always been a very hard task for the administration and consequently it has to be carried out rather slowly on account of the open opposition on the part of the parents to have their offsprings separated from them. These parents have to be convinced that their children will be better off and better taken care of in the children's house than in their own home before they can be persuaded to be separated from their children.

The present Children's House is not a suitable one on account of its insufficient capacity; lack of sufficient ventilation and light, lack of space or even a wide veranda where the children can sleep out of doors; and finally, lack of proper bedding facilities, and lack of sufficient nurses for the proper handling of sick or tender babies. The present personnel of the children's house consists of one matron and several attendants who, besides the difficulty of training them in the care of infants, do not usually stay long in the service.

AGRICULTURE.

Great enthusiasm in their agricultural work has been shown by the lepers during the year. Two additional farming settlements were established during the year, one on the Island of Bulalacao and the other on Hanagdugan Island, making a total of 14 agricultural settlements in all, with a total of 643 persons residing on their respective farms and engaged in that work.

These various farms yielded during the year the following products, namely: bananas, pineapples, mangoes, oranges, nanca, papaya, coconuts, guavas, and among the tubers: sincamas, ubi, tugui, and camotes. These products, which were worth ₱2,088.61 were purchased by the Government from the producers and issued to the leper population as a part of their regular ration.

Palay and sugar-cane were also planted with gratifying results. The palay crop has been comparatively abundant, 200 cavans having been harvested as against 80 cavans during the past year. This quantity may undoubtedly appear ridiculously small, but considering that the Island of Culion is not agricultural land, some parts being arid and rocky, the harvest is altogether gratifying.

The fishing industry is also gaining a strong foothold in the commercial activities of the lepers. A total of 40 fish traps owned by lepers were in operation during the year. It is anticipated that during the coming year, 60 more traps will be put in operation.

There are now 21 carabaos in the hands of the colonists for their agricultural work.

It is the policy of the present administration to encourage the lepers in agricultural pursuits; for while they make money on the products that they raise they also help the Colony to become more or less self-supporting in the future in so far as fruits and other products are concerned.

CONSTRUCTING DIVISION.

Little construction work has been done during the year due to the fact that no funds for said purpose were made available by the Legislature for this period.

The only projects completed were the following:

One tenement house of the sanitary model house plan, which was started in October, 1919 and completed in May, 1920.

The Get-Well Club Residence, which was started in October, 1919 and completed in March, 1920.

One hospital pavilion, which was started in September, 1919 and completed in March, 1920.

Excavation in the Colony, which was started in March, 1919 and completed in February, 1920.

Work on the following projects was started during the year, but suspended due to lack of funds:

Tenement house, which was started in April, 1920.

Assistant Chief's quarters, which was started in January, 1920.

Maintenance.—Little maintenance work has also been done due to the fact that the appropriation of ₱15,000 for said work was made available rather too late, that is to say, about the middle of the year. Hence the work had not progressed as much as was desired and expected at the close of the year. The construction of the Radio Station, which had to be started and completed as soon as possible, made it necessary to employ all the carpenters and laborers on this project, thus hindering the maintenance work which had to be suspended temporarily.

Not until November 26, 1920 was maintenance work resumed and several projects finished by the close of the year.

The following buildings were repaired:

Theatre (new roof), which was started on April 5, 1920 and completed August 17, 1920.

Children's House.—The new certainteed ceiling of this building was completed on October 14, 1920.

Sisters' House.—The new certainteed ceiling of this building was completed on November 26, 1920.

Hospital wards, 3 and 4.—New certainteed ceilings of these wards were completed on December 23, 1920.

Colony water reservoir.—The new roof of this reservoir was started on November 29 and completed on December 31, 1920.

Crematory.—The new roof of the crematory was started on December 8, 1920 and was about completed at the close of the year.

Miscellaneous repairs of urgent character have also been made on the hospital, tenement house, and on a considerable number of units of equipment.

The following radio station buildings were constructed during the year:

Power house, strong material, completed.
Storehouse, strong material, completed.
Operating house, strong material, completed.
Employees' quarters, strong material, 90 per cent completed at the close of the year.

The regulations governing the construction of houses for private dwellings have been rigidly enforced throughout the year. Several houses of mixed material, which were condemned on account of their ruined condition, have already been torn down. To replace these houses, several of the owners were permitted to build new ones in the Sanitary Barrio.

Miscellaneous repairs.—Repairs of an emergency nature and of litttle importance, such as repairing of ditches, drains, windows and doors of public buildings in the Colony have been made during the year. Similar repairs have also been made on the buildings in Balala.

SEGREGATION OF MINORS.

In order to do away with the possibility of frequent cases of corruption of minors and to provide for better care of those children who are practicably orphans in the Colony, it was deemed advisable to make a campaign for the systematic segregation of all children of both sexes in suitable houses or dormitories under the supervision and care of the chaplain of the Colony. As a result of this campaign, there are now 260 children under 18 years of age cared for in these dormitories of which number 160 are boys and 100 are girls. These children also attend school and everything is provided for their social and physical welfare.

SUBSISTENCE.

Subsistence of lepers.—Efforts have been made during the year to improve as much as possible the leper ration, especially that for the Filipinos, as far as permitted by the allotment for subsistence. The quantities of rice, fish, and beef have been increased a little, although it is proper to state that the actual quantities distributed are not yet of such quantities as they ought to be. Vegetables have been issued to the lepers, whenever practicable, without discrimination and, as far as the food item is concerned, it is believed that a larger quantity and oftener, should be given to the lepers in their ration.

Subsistence.

Month.	Employees' mess.	Filipino mess.	Leper mess.	Laborers' mess.
January	₱2,505.57	₱584.51	₱44,089.07	₱3,433.97
February	2,074.95	464.80	34,454.72	3,542.09
March	2,300.20	478.85	37,757.58	3,782.31
April	2,299.35	242.25	37,491.85	2,975.10
May	2,594.70	117.80	43,761.79	2,522.14
June	2,269.50	67.50	40,148.05	2,211.00
July	2,300.20	55.80	44,804.13	2,685.29
August	2,292.45	69.75	45,868.93	2,938.80
September	2,184.00	52.80	43,789.10	2,808.60
October	2,310.43	63.64	46,090.18	3,292.35
November	2,812.32	52.20	45,952.19	3,042.59
December	2,557.50	111.60	51,106.72	4,414.40
Total	12,501.17	2,361.50	515,314.31	37,648.64

Average cost of subsistence per person per day.

Employee's mess	₱2.63
Filipino mess	0.926
Leper mess	0.296
Laborers' mess	0.574

Payrolls.

General	₱22,573.74
Emergency	14,973.00
Construction	10,337.80
Radio station	7,574.60
Maintenance	1,318.38
Leper employees	12,001.68
Leper payroll, public works	10,719.70
Leper payroll, construction	2,472.10
Gratuities to lepers	42,174.60

Number of lepers employed on public works from January 1 to December 31, 1920.

January	143
February	144
March	133
April	137
May	152
June	146
July	128
August	142
September	160
October	165
November	160
December	164
Total	1,774
Monthly average	148

VITAL STATISTICS.

Population.—As may be seen from the table under General Statistics, the population of the Colony on December 31, 1920, was 4,862 as against 4,706 in the same period of 1919—an increase of a little over 3 per cent. This increase is due to the fact that admissions, re-admissions, and births have been greater in number during the present year than during the past year.

Mortality.—The death rate per 1,000 population in 1920 was 104.6 as against 124.2 in 1919. This would seem, of course, abnormal for an ordinary population, but since the leper population is already sick, it is only natural that its normal death rate should be higher than that of any ordinary healthy town.

Causes of death.—Tuberculosis of the lungs and of other organs ranks first among the most common chief causes of death. Leprosy, dysentery (catarrhal), malaria, gastro-enteritis, bronchitis, and organic diseases of the heart coming next in the order of their numerical importance.

The above-mentioned diseases, excluding leprosy, seem to suggest that research work ought to be made of each particular case to determine as to whether these causes are only concomitant, intercurrent, or rather a complication of leprosy. It is certainly very regretful that so far no study has been made on this line on account of lack of pathological facilities, personnel, and time. But if efforts along this line should be made, it would undoubtedly disclose some very interesitng facts which would contribute to the nosology of such a dreadful disease as leprosy.

Natality.—The birth rate per 1,000 population for the year 1920 was 15.3 as against 10.3 last year. Out of a total of 72 births registered, 42 were legitimates, and 30 illegitimates.

Marriages.—The consensus of opinion amongst sanitarians is that it is inadvisable to encourage marital life amongst lepers, especially amongst those confined at a colony. Although it is extremely difficult to stop lepers from leading a married life, as it is against the natural law, yet efforts are being made to discourage it as much as possible by an educational campaign, moral persuasion, and separation of minors by sexes and placing them in better environments. Their spare-time is taken up by inducing them to engage in manual and industrial work, athletics, and healthful games. It is hoped that with these steps taken by the present administration the rate per cent of marriages and incidentally the natality rate, will be reduced in the future.

SANITARY DIVISION.

Routine sanitation has been carried on throughout the year. In December clean-up week was celebrated as in the past year, with the same spirit of enthusiasm and coöperation from the colonists.

Varicella.—Nine cases of varicella of sporadic nature, with no death following, were registered in the months of June and July. These cases were immediately isolated and cared for in a suitable place.

Epidemics.—No epidemic was registered during the year.

Vaccination.—Vaccination, especially of the newly born children, was made systematically. During the year there were 3,238 people vaccinated, with 1,671 positives.

Automatic health control.—This system was inaugurated about the middle of the year, but owing to the lack of personnel and time, the collection of data has not as yet been completed.

RECOMMENDATIONS.

Most of the recommendations made in the annual report for 1919 were not carried out, especially those which referred to construction work. It is therefore necessary to again recommend some of the most important projects recommended therein, namely:

1. Imhoff septic tank.
2. General Hospital plan.
3. Tenement houses.
4. Toilet and sanitary buildings.
5. Secondary dam.
6. Ditches.
7. Extension of electric light to Sanitary Barrio.
8. Bull-cart trail.
9. New cemetery.
10. New jail.
11. Blacksmith and machine shop (Balala).
12. Visitors' quarters.
13. New warehouse.

The following additional construction is also recommended for the year 1921:

New bake oven.—The present one is now beyond repair and should be replaced as soon as practicable.

Emergency hospital in Balala.—This is considered very essential because it has been observed in the past two years that cases of malaria and gastro-intestinal troubles were often registered amongst the laborers. It is therefore deemed advisable and necessary that a small building of strong material with sufficient space for four beds be built. Besides these cases, it is not infrequent also that, for the sake of humanitarianism, cases from Coron and its neighboring barrios, are treated and lodged here. Lack of physicians and medicines compel these people to bring their sick to Culion for treatment. Should they be turned away because they are not from Culion? Most assuredly no.

It is figured that this building will not cost more than ₱400, which is comparatively insignificant, taking into account the benefits to be derived therefrom.

Too much stress cannot be laid upon the necessity of carrying out next year the program of projects recommended last year as they are absolutely necessary for the efficient management of the Colony. It must be born in mind that the Colony now is overcrowded. All government buildings are filled to capacity compelling the utilization of the Negative House and the Quarantine House as temporary quarters for those without homes. The lack of housing facilities has now become an annoying proposition and in order to meet this situation more tenement houses will have to be build as soon as practicable.

More nurses.—As already mentioned in discussing the operation of the Children's House, the addition of more personnel is necessary. It is, therefore, recommended that three more nurses be detailed for duty in the Colony for the proper handling of children confined at the institution.

More physicians.—At least two more resident physicians should be appointed in order to improve the medical attendance and to carry on research work which is a very important undertaking from a scientific standpoint.

More Sisters of Charity.—With the increase of the hospital capacity it becomes imperative that the number of Sisters of Charity be also increased in order to insure the proper management of the hospital. At present there are eight sisters who have been on continuous duty a period of from five to twelve years. The nature of their duty is such that it is necessary that they be given several days of rest each year. But with the actual number of sisters now assigned for duty at the Colony, this cannot be done without hampering the hospital work and the caring of the patients therein.

It is therefore recommended that two more additional sisters be appointed. This is within the limit of the Appropriation Act which calls for ten Sisters of Charity.

Salaries of non-technical employees and laborers should be increased.—There has been universal clamor for an increase of salary in order to meet the present high cost of living and Culion is no exception. The Service is perhaps aware that in former years laborers from Cuyo used to come voluntarily to Culion for work. But last year it has been observed that very few, if any, cared to work here because the agents of some commercial houses offered them higher pay. Unless their wages are made more attractive, it is feared that most of the present laborer who are becoming less and less every month, being lured away by the more lucrative jobs outside, will leave, although an attempt has been made to increase their salaries a little.

One pharmacist needed.—The work in the pharmacy has been increased to such an extent that the Sister of Charity who is in charge cannot handle it. It is, therefore, recommended that one pharmacist, with a compensation at the rate of ₱1,800 per annum, with subsistence and quarters, be appointed in the Colony to take charge of the pharmacy and other work pertaining thereto.

CUYO HOSPITAL.

This hospital is temporarily housed in a rented building and is considered adequate for this hospital. The District Engineer has proposed that the Government purchase this building for a permanent hospital building for the Cuyo Hospital.

Admission of patients.—There were in all 108 patients admitted to the hospital during the year. Of this total, 103 were discharged, 67 recovered, 32 improved, 4 unimproved, and 3 died, and two remained in the hospital at the close of the year.

Dispensary.—During the year there were 2,319 dispensary patients treated in the hospital. Of this total, 1,057 received prescriptions, 1,149 received dressings, and 113 had minor operations performed.

Financial statement.

Open market purchases during the year	₱1,430.75
Other expenses, as stamps, fuel, etc	110.74
For moving hospital supplies	13.75
Laundry for the nurses	143.60
Rental of building	267.50
Payrolls of employees	768.00
Total	2,734.34

The total collections of the hospital during the year amounted to ₱213.86.

Subsistence.

Balance on hand December 31, 1919	₱107.63
Purchased from Bureau of Supply	83.95
Purchased on open market	1,430.75
Total	1,622.33
Subsistence supplies consumed during the year	1,599.48
Subsistence consumed as starch for laundry	11.05
Subsistence remaining on hand December 31, 1920	11.80
Total	1,622.33

Average cost of subsistence per month	135.19
Average cost of subsistence per person per day for physician and nurses	0.966
Average cost of subsistence per person per day for patients and employees	0.297

Municipal sanitation.—The chief of the Cuyo Hospital also acted as local health officer for the municipality of Cuyo.

At the beginning of the year cholera was introduced in the town of Cuyo from Antique. 31 persons were attacked. Of this total, 22 died and 9 recovered.

The most common diseases were dysentery, varicella, measles, and ascariasis.

The total population of the municipality of Cuyo in 1920 was 15,116. During the year there were 84 marriages, 433 births, 53 deaths under one year, and the total number of deaths during the year was 225. In the municipality of Cuyo there is only one sanitary inspector employed to attend to all the work, such as disinfecting, vaccinating, and other duties.

KIANGAN HOSPITAL.

Although the new hospital building was still undergoing construction, the Kiangan Hospital was transferred to it about the middle of the year. The new building consists of two stories, upper and lower, the lower story being of concrete construction with a wooden superstructure for the upper story.

Even while the new hospital building was still under construction, the activities of the hospital showed great improvement in the way of attracting people to seek admission thereto, and sometimes the number of patients seeking admission exceeded the capacity of the hospital, which demonstrates that the natives both appreciate and recognize the hospital as one of the very necessary and most important institutions in the province.

The male and female wards are located in each end of the first story opposite each other and the operating room is near the male ward. The public dispensary is also located in a downstairs room which was intended to be occupied by the office of the subdistrict health officer and the dressing room is opposite it. The drug room and the office of the subdistrict health officer are located in the upper story opposite each other. There are also eight private rooms in this story.

The capacity of the Kiangan Hospital is fifty beds, arranged as follows:

First story:
- 2 Free wards:
  - Male department, capacity 20 beds.
  - Female department, capacity 14 beds.
- 1 Operating room (under construction).
- 1 Delivery room (under construction).
- 1 Public dispensary.
- 1 Dressing room.
- 2 Storerooms.
- 2 Toilet rooms.
- 1 Bathroom.

Second story:
- 8 Private rooms:
  - Each room can accommodate two beds, making 16 in all.
- 2 Long verandas, opposite each other.
- 1 Bathroom.
- 2 Toilet rooms.
- 1 Clinical laboratory (occupying one of the verandas).
- 1 Operating room (temporarily occupying the other veranda).

The kitchen, which is constructed of light material, is a temporary building some meters away from the main building.

The bath, toilet, and delivery rooms and the male wards are still undergoing construction.

PERSONNEL.

1 Chief (subdistrict health officer).
1 Nurse.
1 Sanitary inspector (detailed in hospital).
1 Cook.
2 Houseboys.
1 Laundress.

ADMINISTRATIVE DIVISIONS.

(1) General administration (main office).
(2) Nursing department.
(3) Pharmacy and drug room.
(4) Unclassified labor service.

(1) The general administration or office work is performed by the subdistrict health officer, who at the same time is the resident physician and pharmacist of the hospital.

(2) The present nursing department is defective due to lack of personnel. There is at present only one nurse temporarily assigned to the hospital who carries out all the physician's orders throughout the 24 hours each day. An organized hospital like this should have a sufficient number of nurses to properly take care of the patients, taking into consideration the total number of patients admitted every year.

(3) The pharmacy and drug room is under the charge of the subdistrict health officer who, at the same time, makes routine stock medicinal preparations.

(4) The unclassified labor service is under the direct supervision of the subdistrict health officer. This service includes the cook, laundress, two houseboys, and their daily miscellaneous duties.

SERVICES.

(1) Hospital patients.
(2) Dispensary patients.
(3) Gardening service.
(4) Plumbing service.
(5) Illumination service.
(6) Water supplies.

In patient department.—There were 510 patients admitted to the hospital during the present year, as compared with 263 during the past year.

Admission of patients.

Patients remaining in the hospital, December 31, 1919	12
Admitted during the year	510
Total	522
Died during the year	6
Remaining in the hospital at the end of the year	6
Total	12

MISCELLANEOUS.

Major operations performed	0
Minor operations performed	52
Laboratory examinations	82
Death rate per cent	1.2

According to the hospital and dispensary records and the weekly health reports of the sanitary inspectors, it appears that the prevailing diseases in the subprovince of Ifugao during the present year, were malarial fever and intestinal parasites.

Frequency of malarial fever.—This is due to the continuous standing of stagnant water in the rice paddies and thick vegetation surrounding almost every district and barrio.

Prophylaxis.—The adoption of preventive measures by the natives proved a complete failure due to lack of financial resources to meet the cost of the necessary means of prevention, such as the use of mosquito nets, screenes, and quinine, and unless an ample supply of quinine is furnished for constant free distribution, the natives in general will always remain weak, pale, and unhealthy as at present.

Frequency of intestinal parasites.—Intestinal parasites are common among the natives of this sub-health district, both in children and in adults, the underlying causes of which are briefly outlined in the following observation: A large percentage of the people in general are yet completely ignorant as to the hygienic selection and preparation of their food and drinking water, furthermore, it is a well-known fact that all the natives go barefooted and generaly lodge in damp dwellings where larvæ and parasitic eggs exist.

Prophylaxis.—The sanitary personnel of this sub-health district performed numerous charitable service for the protection of the public health in general, and in spite of the inadequate sanitary personnel of this sub-health district, the most important preventive sanitary measures have already been introduced, such as the sanitary disposal of excreta, general cleanliness of the surroundings, proper selection and handling of food and water for domestic purposes, and the education of the people in hygiene and sanitation and their importance.

Case incidence and fatality from malarial fever.

	Per cent.
Average percentage of cases from malarial fever	40.3
Average percentage of deaths from malarial fever	0

Case incidence and fatality from intestinal parasites.

	Per cent.
Average percentage of cases from intestinal parasites	30.2
Average percentage of deaths from intestinal parasites	1.5

One difficulty encountered in treating Ifugao patients in the hospital is that practically almost all of them decline to be subjected to dietetic treatment in cases where an absolute liquid diet is prescribed for them for a certain number of days. However, they readily submit to any kind of medicinal treatment prescribed for them.

Out-patient department or dispensary.—The out-patient department or dispensary includes all patients coming to the hospital or dispensary for medical treatment, dressings, etc.

Out-patient department or dispensary.

	1919	1920
Consultations	573	358
Treatments	349	376
Total	922	761

Gardening service.—Through the kindness of the Provincial Governor in donating to the hospital the labor of fifty persons to enlarge, prepare and set vegetable and flower plants in the gardens of the hospital in lieu of working out their road taxes on the provincial roads, the hospital was enabled to establish a vegetable and flower garden in which flowers and various vegetable plants are already flourishing.

Plumbing service.—The plumbing service, during the year, was not satisfactory. The plumbing system of the hospital is a temporary system. However, it was kept in a sanitary condition at all times.

Illumination service.—The illumination service was chiefly petroleum, which is unsatisfactory.

Sanitation service.—The sanitary condition of the hospital has been scrupulously maintained and has given a good example to the few Christians residing in the very heart of Bontoc and to the natives of this sub-health district as a whole. The routine work in regard to cleaning has been comparatively better than in the past year, especially during the middle of the year when the spray-pumps and mops were received. Considerable inconvenience was experienced at times because of the failure of the water supply to reach the hospital building.

Water supply.—The water supply of the hospital comes from a spring located on a hill, away from contamination and with the necessary sanitary protection. The water is crystalline in appearance and is piped to the hospital.

Bathroom.—The bathroom or rather shower bath is of temporary light material construction some meters away from the hospital. Its faucet has been the only one in operation throughout the year.

Clinical laboratory.—The clinical laboratory is located on one of the verandas on the second story. The laboratory has one microscope and its accesories necessary for making bacteriological examinations.

Financial statement.

	Expenditures.	Appropriations.
Consumption of supplies and material	₱2,140.25	₱4,200.00
Illumination and power service	214.00	300.00
Building repair service	(a)	(a)
Total	2,354.25	4,500.00

a None.

RECOMMENDATION.

Since the establishment of this hospital in this subprovince, the natives have recognized its importance as to the maintenance of the public health; and in order to uphold and maintain the highest standard of health work as a modernly organized hospital should, the following recommendations are earnestly made:

(1) That the number of nurses be increased from one to five, and if possible, four of them to be female nurses and one male nurse. Of the female nurses, three are to be detailed in the hospital and one to be detailed as dietitian, and the male nurse to be detailed as district nurse. Taking into consideration the topographical condition of this province, a male nurse would be preferable for the position of district nurse.

(2) That two additional houseboys be allowed, one for the hospital and one for the gardening service.

(3) That one superintendent of the hospital be allowed.

(4) That one additional laundress be allowed.

(5) That funds to start the foundation of a permanent kitchen for the hospital be appropriated.

(6) That the wages of the cook and houseboys be increased.

SAN LAZARO HOSPITAL.

During the year 1920, 3,423 patients were treated in the San Lazaro Hospital, of which 644 were patients remaining in the hospital at the end of 1919.

Of the above grand total, 2,244 patients were discharged during the year, 428 died, and 747 remained in the hospital at the end of 1920.

Under General Statistics of this report will be found a classified list of all the diseases treated in the hospital during the year, showing the number of cases corresponding to each disease, the number of patients admitted into the hospital during the year, the number discharged, the number died, the number remaining over from 1919, and the number remaining in the hospital at the end of 1920.

Patients treated during 1920, classified by nationality.

	Americans.		Europeans.		Filipinos.		Chinese.		Others.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
Remaining over from 1919	10	....	14	4	409	197	5	....	4	1	644
Admitted during 1920	65	13	22	5	1,514	1,099	35	7	11	8	2,779
Total	75	13	36	9	1,923	1,296	40	7	15	9	3,432

Case mortality of patients treated during 1920.

Diseases.	Number of patients treated.	Number of patients died.	Case mortality.
1. Anthrax	2	1	50.00
2. Beriberi	1	0	....
3. Broncho-pneumonia	7	3	42.85
4. Cancer	5	0	....
5. Cholera	108	10	9.25
6. Cholera carriers	48	0	....
7. Diphtheria	77	17	22.07
8. Diphtheria carriers	31	0	....
9. Dysentery	134	28	20.89
10. Eczema	1	0	....
11. Erysipelas	1	1	100.00
12. Eruptive fever (?), observation	1	0	....
13. Gonorrhœa	254	0	....
14. Hydrophobia	3	3	100.00
15. Impetigus	2	0	....
16. Influenza	78	2	2.56
17. Insanity	701	50	7.13
18. Leprosy	437	9	2.05
19. Malaria	27	0	....
20. Measles	272	5	1.83
21. Mumps	47	0	....
22. Neuritis	1	0	....
23. Old age or invalidity	103	29	28.15
24. Paratyphoid fever	3	0	....
25. Phemphigus	1	0	....
26. Plague (?), observation	1	0	....
27. Pneumonia	1	0	....
28. Rheumatism	1	0	....
29. Scabies	1	0	....
30. Scarlet fever	1	0	....
31. Smallpox	13	3	23.07
32. Syphilis	21	1	4.76
33. Tetanus	72	39	54.16
34. Tuberculosis	440	174	39.54
35. Typhoid fever	180	52	28.88
36. Urticaria	2	0	....
37. Varicella	332	0	....
38. Whooping cough	2	1	50.00
39. Yaws	10	0	....
Total	3,423	428	12.50

Distribution of cholera cases during 1920.

Number of cases remaining over from 1919		6
City of Manila:		
Health Station No. 1 (Intramuros)	21	
Health Station No. 2 (Meisic)	28	
Health Station No. 4 (Sampaloc)	19	
Health Station No. 5 (Tondo)	30	
Health Station No 6 (Paco)	21	
		119
Provinces:		
Bulacan—		
City Boys' Reformatory	7	
Paombong	1	
Hagonoy	3	
Rizal—		
Malabon	1	
Maypajo	1	
Navotas	1	
Parañaque	1	
Pasay	6	
San Juan del Monte	5	
Tayabas—		
Calawag	1	

Distribution of cholera cases during 1920.

Provinces—Continued.

Other provinces—found on board ship and reported by the Quarantine Service	4	31
Total		156

Distribution of cholera cases during 1920, by months.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Manila.													
Station No. 1	1	....	2	1	2	3	5	3	....	2	1	1	21
Station No. 2	2	1	1	6	....	4	5	3	2	1	3	....	28
Station No. 4	4	1	1	5	1	3	1	....	2	....	1	....	19
Station No. 5	1	4	1	....	4	6	8	....	2	1	1	2	30
Station No. 6	....	1	1	1	2	8	2	2	2	....	1	1	21
Provinces.													
Bulacan:													
City Boy's Reformatory	....	....	....	....	....	6	1	....	....	....	....	....	7
Paombong	....	....	....	....	....	....	....	....	1	....	....	....	1
Hagonoy	1	1	....	....	....	1	....	....	....	....	....	....	3
Rizal:													
Malabon	....	....	....	....	....	....	....	1	....	....	....	....	1
Maypajo	....	....	....	....	....	1	....	....	....	....	....	....	1
Navotas	....	....	....	....	....	....	....	1	....	....	....	....	1
Parañaque	....	....	....	....	....	1	....	....	....	....	....	....	1
Pasay	4	....	....	....	1	1	....	....	....	....	....	....	6
San Juan del Monte	1	....	....	....	....	2	....	2	....	....	....	....	5
Tayabas:													
Calawag	....	....	....	....	....	....	1	....	....	....	....	....	1
From other provinces—found on board ship, and reported by the Quarantine Service	....	....	2	....	1	....	1	....	....	....	....	....	4
Remaining over from 1919	....	....	....	....	....	....	....	....	....	....	....	....	6
Total	14	8	8	13	11	36	24	12	9	4	7	4	156

NOTE.—Forty-eight cholera carriers are included in this table. Four cholera carriers found in the Insane Department of this hospital have been charged to health station No. 5 (Tondo), this hospital being within the limits of Tondo.

In addition to the patients confined and treated in this institution during 1920, the following table shows the number of outside patients residing in Manila who received medical treatment in the dispensary of this hospital during the year:

Month.	Diseases.						Total.		Grand total.
	Gonorrhœa.		Syphilis.		Other genito-urinary diseases.				
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
January	9	4	1	0	0	18	10	22	32
February	5	10	0	0	0	14	5	24	29
March	8	9	0	0	0	13	8	22	30
April	4	34	2	0	0	16	6	50	56
May	5	28	0	0	1	12	6	40	46
June	1	34	1	1	0	8	2	43	45
July	5	24	0	1	0	18	5	43	48
August	5	42	0	2	0	12	5	56	61
September	6	46	0	1	0	18	6	65	71
October	6	43	0	0	1	16	7	59	66
November	3	46	0	0	0	8	3	54	57
December	3	19	0	0	0	5	3	24	27
Total	60	339	4	5	2	158	66	502	568

The following table shows the number of prescriptions prepared in the dispensary of this hospital during the year for hospital patients and outside patients coming to the hospital every day for medical treatment:

Month.	Hospital prescriptions.	Charity prescriptions.	Total.	Average number per day.
January	62	416	478	15.45
February	40	349	389	13.41
March	44	311	355	11.45
April	38	413	451	15.00
May	47	479	526	16.96
June	86	505	591	19.70
July	89	512	601	19.35
August	59	515	574	18.53
September	74	554	628	20.93
October	56	524	580	18.71
November	63	490	553	18.43
December	74	292	366	11.00
Total	732	5,360	6,092	16.65

NOTE.—Many of the prescriptions in the above table were often times requested to be refilled. Throughout the year every day medicine containers were brought to the pharmacy to be refilled with different pharmaceutical preparations and medicines.

IMPROVEMENTS MADE DURING THE YEAR.

A Committee on Leprosy Investigation was organized in the early part of the year for the purpose of investigating the treatment and cure of leprosy and to make improvements in the procedure of the treatment and cure of lepers, both in San Lazaro Hospital and at the Culion Leper Colony. The personnel of this committee consists of the following members: Drs. J. P. Bantug, Chairman, Liborio Gomez, Recorder, H. W. Wade, Granville A. Perkins, Samuel Tietze, Proceso Gabriel, Daniel de la Paz, and Luis Guerrero, members.

The Committee holds meetings every Saturday at 10 a. m. at the Leper Department of the San Lazaro Hospital. Their first meeting was held on May 8, 1920.

On June 1, the said Committee selected 76 leper patients (63 males and 13 females) for special treatment. These patients were divided into five different groups, respectively, A, B, C, D, E. Another group (F) was later added.

DRUGS USED AND METHOD OF ADMINISTRATION.

Group A receives the sodium gynocardate A intravenously; group B receives the sodium gynocardate S intravenously; group C receives the sodium morrhuate intravenously; group D receives the Mercado mixture intramuscularly; group E receives the collobiases (Paris) subdermally, by infiltration or intravenously; and group G receives distilled ethyl ester intramuscularly.

Frequency of administrations.—The first five groups received the treatment since June 28, 1920, and same were given successive injections twice a week. Group F began to be treated on November 29, 1920.

The frequency of administering the treatment depends mainly upon the local and general reaction of the patients.

Doses.—The sodium gynocardate A, S, and sodium morrhuate are given as initial dose ½ cc.

The Mercado and the distilled ethyl ester 1 cc. at the beginning.

The collobiases (Paris) which is given subdermally, or by infiltration, has no definite quantity at the beginning.

The doses of all these drugs are increased gradually, depending on the reaction of the patient. In some cases the doses were reduced to very small quantities because the patients sometimes became extremely sensitive.

Reaction.—The reactions produced by these drugs are nearly the same, and consisted of fever and local infiltration of the lesions, which lasted about a week. The injection of sodium gynocardate A, S and morrhuate was not followed by weakness as that due to the Mercado mixture. The distilled ethyl ester is followed at times by swelling and redness of the part injected, and slight fever lasting less than a week.

During the periods of reaction, injections are completely suspended.

Changes of administration.—Concerning this subject, it is rather interesting to note the reactions for such changes: (1) Extreme difficulty in finding the veins; (2) obliteration due to thrombosis; (3) the veins may be very small; (4) extreme nervousness and shock; (5) local cyanosis leading to inflamation and gangrene; (6) patient steadily becomes worse.

The Committee decided in every case the method, kind of drug to be given to individual cases, investigating carefully all reasons therefor, before a change in the administration of treatment was ordered.

Bacteriological examination.—The Committee on Leprosy Investigation has ordered that bacteriological examinations of all lepers treated by it be made every three months.

CONSTRUCTION AND REPAIRS OF BUILDINGS.

During the year no new construction was undertaken, but alterations and repairs of the following buildings were made: The annex to the main office building, previously occupied by the industrial section of the female insane department, was converted into the guards' quarters where the hospital guards are at present quartered. The male helpers' quarters was enlarged to double its previous size, increasing its capacity to 40 persons, and a toilet and bathroom were added. The male nurses' dormitory has also been enlarged and thoroughly overhauled, renewing the roof, painting and installing a toilet and bathroom.

An additional building was added to the main kitchen from which the rice and soup boilers were removed, thus enlarging the kitchen and making it very much cooler and well ventilated.

The old automatic flush closets in the leper department were removed and replaced with single ordinary ones for the purpose of reducing the water consumption by the constant flushing of same every five minutes.

The new offices for the chief and clerical force of the hospital were also completed, and the pharmacy transferred to the place vacated by the former office of the chief of the hospital.

Additional cells were constructed in the male insane department and several parts of same repaired.

A concrete tennis court was built, where the employees are now enjoying their open air exercises.

The gardens and streets were improved and new ones built, which helped in perfecting and embelishing the hospital grounds.

ENLARGEMENT OF HOSPITAL GROUND.

Towards the end of 1920, the land and buildings thereon, bounded by and situated at the north side of the hospital grounds, were transferred to the institution. It is a very important addition and enlarges the hospital grounds, giving it symmetrical and better appearance. Work has already been commenced on the cleaning of the site and construction of streets. It is proposed to alter and repair the old buildings on this ground for housing the hospital laboratory and dormitories for the employees of the hospital.

RULES AND REGULATIONS FOR SAN LAZARO HOSPITAL.

The preparation, approval and enforcement of the new rules and regulations for the San Lazaro Hospital are considered among the improvements accomplished during 1920.

Previous to 1920, chiefs of the hospital had to be guided in the performance of their official duties in accordance with the instructions contained in several circulars issued by the Director of Health, in the Manual of the Bureau of Health, and in the Administrative Code, or, in the circulars or special orders issued by the chief of the institution.

With the enforcement by the Director of Health of the new rules and regulations, officers and employees of this institution, especially those newly appointed in the service, had less difficulty to acquaint themselves with their official duties, which devolved upon them while on duty in the hospital.

SUBSISTENCE.

The following is a statement of expenses incurred in subsistence supplies during the year:

On hand on December 31, 1919	₱4,974.27
Purchased during the year	258,063.18
Total	263,037.45
Consumed during the year	259,678.55
Remaining on hand December 31, 1920	3,358.90
Average cost of subsistence per day	711.45
Average number of persons subsisted per day	976
Average cost of subsistence per person per day	0.728

PERSONNEL.

Officers and employees of the hospital responded with splendid *esprit de corps* in the performance of their duties and all, with the exception of a few already separated from the service, deserve the commendation and praise of their chief for their constant devotion to duty. The Superintendent of the hospital, Mr. Eugenio Viana, deserves special mention and praise for the double duties he performed simultaneously during the year in the hospital and in the Central Office of the Philippine Health Service.

The three leper carpenters who made office furniture, dining tables, benches and stools for the leper wards, and also the improved male insane patients who constructed streets, filled in low land, and cleaned and improved the surroundings of the hospital buildings are also worthy of commendations.

DONATIONS.

During the year, Mrs. Newman, in representation of the Manila Women's Club, donated the following musical instruments and athletic outfits to the Leper Department of the San Lazaro Hospital: One violin, two guitars, one indoor baseball outfit, one basket-ball outfit, one tennis outfit and two dozen tennis balls. Two evenings before Christmas the same club entertained the improved male insane and leper patients with a cinematograph show, and on Christmas day presented them with candies and other eatables.

The entertainments were heartily appreciated by the patients and the donations contributed much towards improving their spiritual and physical welfare, especially the athletic outfits, which is reflected in the reports of the Committee on Leprosy Investigation.

The many and costly donations made to these unfortunates, both at San Lazaro Hospital and at the Culion Leper Colony, by the Manila Women's Club, and the results obtained, strongly emphasize how much may be done for these unfortunates to make their lot less burdensome and gloomy aside from the actual cure of the disease.

RECOMMENDATIONS.

IMPERATIVE CONSTRUCTION AND REPAIRS.

The following construction and repairs are urgently needed for the improvement of the hospital:

The construction of a new building for a nurses' dormitory of 75 bed capacity was recommended, year after year, for the accommodation of the nurses, the majority of whom are at present accommodated in the pay pavilion.

The morgue and crematory should be reconstructed or at least thoroughly repaired. It is believed that the present morgue building will not stand for another year on account of its dilapidated condition.

The roofing of the tuberculosis pavilion should be removed and replaced with galvanized iron. The present tile roofing is leaking all over the building and the patients are always molested during the rainy season. Several attempts were made to repair the present roofing but without success. The building requires also a general painting.

The contagious, leper and insane department buildings also require some alterations and minor repairs and general painting, inside and outside.

The above-construction and repairs were recommended in the appropriation of this year in addition to the construction of one or more buildings for contagious diseases and cottages of wooden construction for married officers.

It is regretted that the Bureau of Public Works has not as yet been able to complete the ornamental portion of the female insane building, which gives a bad impression upon the public on account of its ugliness.

ALBAY PROVINCIAL HOSPITAL.

ADMISSION OF PATIENTS.

Patients remaining over from the previous year	11
Patients admitted during the year	582
Total	593

Patients discharged during the year	533
Patients died during the year	51
Patients remaining in hospital December 31, 1920	9
Total	593

By nationality:	
Filipinos	530
Americans	15
Spaniards	10
Chinese	22
Others	5
Total	582

Male patients	382
Female patients	200
Total	582

By ages:	
Below 10 years	99
10 to 20 years	99
20 to 30 years	192
30 to 40 years	94
40 to 50 years	52
50 to 70 years	46
Total	582

SUBSISTENCE.

Number of patients subsisted during the year	593
Number of hospital attendants subsisted during the year	147
Number of employees subsisted during the year	11
Total	571

Total number of days subsisted	13, 889
Average number of persons subsisted per day	38
Total cost of subsistence during the year	₱10, 660.93
Average cost of subsistence per person per day	0.76
Received from patients during the year	6, 781.89

EXPENDITURES.

Salaries and wages, including bonuses	₱7,840.60
Consumption of supplies and materials	3,860.23
Miscellaneous	1,143.49
Total	12,844.32

PERSONNEL.

1 Chief nurse	₱900
1 Nurse	720
1 Clerk, property and cashier	480
1 Practicante (none employed this year)	300
3 Student nurses (₱180 per annum each)	540
1 Cook	240
1 Laundryman	180
1 Gardener	180
2 House servants (₱150 per annum each)	300
Total	3,840
Bonuses, 25 per cent	960
Grand total	4,800

OUTSIDE CLINIC.

Consultations	387
Treatments	1,213
Operations	39
Attendance at residence	235

There were 86 operations performed, 7 being major and 79 minor operations. Four cases, 1 of varioloid, 2 of cholera, and 1 of suspected leprosy, were treated in the contagious ward. Seventeen obstetrical and 22 gynecological cases were treated.

Included in the above-reported are 82 smallpox cases which were treated in the smallpox ward, which was established February 1, 1920 and continued until March 25, 1920.

LEYTE PROVINCIAL HOSPITAL.

During the year there were 328 patients admitted and treated in the hospital which represents an excess of 95 patients over those of the previous year. The people now realize the importance of hospitalization and also believe that the hospital is one of the very necessary and important institutions in the province as evidenced by the fact that on several occasions the number of patients admitted to the hospital was greater than the number of beds in all the wards of the hospital. This fact shows that the work of the hospital is satisfactory.

ADMISSION OF PATIENTS.

Number of patients remaining in the hospital, December 31, 1919	6
Number of patients admitted during the year	322
Total	328
Number of patients discharged during the year	320
Number of patients remaining in the hospital, December 31, 1920	8
Total	328

PERSONNEL.

1 Resident physician.
1 Dispensary attendant, cashier and property clerk.
1 Chief nurse.
1 Nurse.
1 Hospital attendant.
1 Practicante.
4 Servants.
1 Laundress and seamstress.
1 Cook.

Financial statement.

Month.	Hospital account.		Items.	General account.	
	Receipts.	Expenditures.		Expenditures.	Appropriations.
January	345.73	365.39	Compensation of officers and employees (A)	₱4,643.71	₱4,643.71
February	698.00	300.37	Bonuses (A)	1,363.87	1,363.87
March	525.00	422.30	Wages (B)	1,102.17	1,102.17
April	604.54	378.52	Bonuses (B)	192.32	192.32
May	401.08	394.85	Consumption of supplies and materials (C)	12,936.51	12,936.51
June	589.29	437.97	Illumination and power service (D)	321.30	321.30
July	386.23	529.84	Equipment and repair service (H)	2.20	2.20
August	886.80	551.96	Traveling expenses (J)	44.78	44.78
September	583.19	398.07	Other service	8.33	8.33
October	581.83	353.03			
November	283.44	399.60			
December	588.15	383.38			
Total	6,474.28	4,915.28	Total	20,615.19	20,615.19

The increase of the annual expenses of the hospital is due to the increased number of admissions of patients to the hospital; to the increase of prices of commodities; to the various articles of equipment requisitioned from the Bureau of Supply for the hospital, and to the full bonus given to all employees during the year, which during the past year they received only during the period of from January 1 to March 31.

IMPROVEMENTS.

The hospital has been undergoing repairs since December 20, 1920, as per the Director of Health's letter, dated May 11, 1920, and it is hoped that after the work is over patients will find better accommodations in the hospital than heretofore. Only such general repairs are being made as will make the hospital as commodious and comfortable for the patients as possible until the completion of the construction of the proposed new hospital building.

It should be stated that the subsistence has also been improved due to the constant complaints of the public concerning this matter, and at present a special menú is prepared, especially for private patients, by the dietitian to remedy this defect.

Finally, it might be assured that the present general condition of the hospital is improving as shown by the constant demand for beds from the public.

During the great parade of the past Rizal Day, 1920, the hospital won the first prize in the parade, according to the announcement made by the committee on award, for its significant and allegorical presentation.

NAGA PROVINCIAL HOSPITAL.

The Naga Hospital was in operation only during the first six months of the year, due to the separation of the new Province of Camarines Norte from the former Province of Ambos Camarines. The closure of the hospital during the last six months of the year was inevitable because part of the fund for the maintenance of the hospital was tranferred to Camarines Norte, the newly created province.

Three hundred twenty-eight patients were admitted during this period, 17 of whom died, giving an average fatality rate of 5.1 per cent. Malaria was the most prevalent disease during the year in this health district and had the greatest number of hospital cases,—84. Dysentery was next in the order of numerical importance, there having been admitted 19 cases of this disease into the hospital. Out of the 19 cases of dysentery, 1 died. Nearly all the patients who died in the hospital entered the hospital when their illness was already in an advanced stage. Three amputations were performed during the year, with good results.

The report of hospital cases may be found under General Statistics.

It is recommended that upon reopening the hospital a position for pharmacist be created, that the operating and dispensary room be enlarged and furnished with an atomizer, and that an additional room for quartering the male hospital employees be constructed.

REPORT OF THE DIVISION OF SANITATION, CITY OF MANILA

(Dr. Salvador V. DEL ROSARIO, *Chief of Division.*)

EPIDEMIOLOGY.

Before going to discuss in particular the various factors concerned in the causation, incidence and mortality of the classically named "dangerous communicable diseases," it seems well first to give a tabulated summary of what the course followed by these diseases has been during the past six (6) years. Crude number of cases and incidence per 1,000 population only are given in this table leaving for the particular discussion on each disease details referring to the number of deaths, the fatality rate per 100 of cases and the mortality per 1,000 or 10,000 population.

Epidemic diseases in the city of Manila.[a]

Diseases.	1915		1916		1917	
	Cases.	Rate per 10,000 population.	Cases.	Rate per 10,000 population.	Cases.	Rate per 10,000 population.
Smallpox	3	0.11	1	0.04	3	0.11
Varioloid	3	0.11	62	2.27	129	4.65
Varicella	112	4.15	56	2.04	130	4.68
Cholera [1]	66	2.45	1,214	44.38	25	0.90
Typhoid	107	3.97	270	9.87	525	18.91
Dysentery	....	....	199	7.27	851	30.35
Influenza [2]	....	....	....	....	....	....
Diphtheria [1]	59	2.18	114	4.16	79	2.84
Measles	96	3.56	310	11.33	237	8.55
Plague	....	....	....	....	....	....
Rabies	....	....	1	0.04	....	....

Diseases.	1918		1919		1920	
	Cases.	Rate per 10,000 population.	Cases.	Rate per 10,000 population.	Cases.	Rate per 10,000 population.
Smallpox	1,326	47.19	57	1.99	5	0.17
Varioloid	....	....	23	0.81	....	....
Varicella	....	....	165	5.78	317	10.94
Cholera [1]	182	6.47	861	30.12	22	0.75
Typhoid	497	17.72	511	17.94	642	22.16
Dysentery	839	29.83	737	25.82	576	19.88
Influenza [2]	37,950	1,347.66	....	....	....	....
Diphtheria [1]	45	1.65	69	2.42	50	1.72
Measles	544	19.36	151	5.28	387	13.36
Plague	....	....	....	....	....	....
Rabies	....	....	....	....	1	0.03

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[a] Rate computed on population estimated by arithmetical method according to general census of 1903 and 1918.

[1] Only positive cases. Suspects not included.

[2] No record of cases kept for years except 1918.

The above table plainly suggests on a careful analysis great improvement in the epidemic situation. There are, however, a few points to which the attention of the reader can but be attracted. Thus, while the majority of the old infections show themselves on their decline, or at least in a non-progressive status, yet the true and serious problems for the moment are reduced to the *typhoid situation* and a rather persistent increased incidence and fatality in *measles*.

As for the rest of the epidemic diseases, their tendency and prospect are such as not to exclude in time the possibility for us of having no more reason to include them in our standard list of epidemic diseases than there would be for such strange diseases as, for instance, yellow fever, typhus fever or sleeping sickness.

Whether *influenza* has or has not been present during 1920, we feel inclined to believe in its existence during 1920, due to the somewhat increased number of deaths in that year from "diseases of the respiratory system," the increase being as follows:

	1919	*1920*
Acute bronchitis (general mortality)	545	677
Broncho-pneumonia (general mortality)	345	434

CHOLERA.

The following comprehensive table of incidence and fatality from cholera in the city of Manila during 1920 will probably show to the reader how much an old endemic disease with occassional unexpected outbreaks and even from time to time serious epidemics can be brought under effective permanent control through the instrumentality of modern scientific measures.

Incidence of cholera and its fatality in the city of Manila (including non-residents) during the year 1920.

	Cases reported as suspects.				Total.		Positive.				Total.	
	Residents found.		Non-residents found.				Residents.		Non-residents.			
	Living.	Dead.	Living.	Dead.	Living.	Dead.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
January	6	0	3	0	9	0	1	0	1	[a]1	2	[a]1
February	4	0	0	0	4	0	2	0	0	0	2	0
March	4	0	0	0	4	0	0	0	0	0	0	0
April	12	0	0	0	12	0	3	1	0	0	3	1
May	10	3	1	0	11	3	2	1	1	0	3	1
June	16	2	4	0	20	2	4	0	0	0	4	0
July	10	0	0	0	10	0	5	0	0	0	5	0
August	10	0	2	0	12	0	2	0	0	0	2	0
September	7	0	1	0	8	0	1	0	0	0	1	0
October	3	0	0	0	3	0	1	0	0	0	1	0
November	6	0	0	0	6	0	1	0	0	0	1	0
December	5	1	0	0	5	1	0	0	0	0	0	0
Total	93	6	11	0	104	6	22	2	2	1	24	3

[a] Provincial case of last year brought alive to San Lazaro for treatment.

For a full understading of the term "Positive" as used in this table, it seems well to state that the term means the confirmation of any provisional (preliminary) diagnosis of cholera by one or more of the following tests:

(*a*) Bacteriological examination;
(*b*) Unmistakable clinical picture;
(*c*) Post-mortem examination (anatomical diagnosis).

In drawing conclusion from these epidemiological figures, or rather, to speak more exactly, in seeking for a satisfactory explanation of the above facts, it is not claimed that this dreadful endemic disease has been altogether eradicated, as years have perhaps to pass with clean cholera records before the Islands might aptly be pronounced as permanently freed from cholera.

The great epidemics of 1902, 1908 and to a lesser extent that of 1916 are all fortunately over. Improved drinking water supplies, efforts towards bettering the old wrong disposal of sewage, systematic disinfection of houses and groups of houses have been no doubt instrumental in the amelioration of the situation; they were, however, to be appended by two most powerful means of control and prevention of cholera, viz:

(1) A most vigorous and untiring campaign for the search and judicious control of carriers of vibrios (even the atypical strain of them known as "non-agglutinable"); and

(2) The wholesale vaccination of as great masses of people as possible around the well known or at newly discovered foci (the veritable headquarters of the ever threatening vibrional infection), and under the means at our command,

to bring about such gratifying results as those obtained in 1920.

The epidemiological features worthy of mention in 1920 (city of Manila) might well be summarized in this way:

(*a*) The greatly reduced number of "Positives" found in 1920 (21.81 per 100 as against 82.62 per 100 in 1919) out of the whole bulk of "Suspects;"

(*b*) The much decreased fatality among "Positives" (12.50 per 100 in 1920 as against 40.88 per 100 in 1919);

(*c*) The reduced number of carriers (0.06 per 100 out of a total of 91,411 stool specimens in 1920, as compared with 0.38 per 100 out of a total of 90,608 stool specimens in 1919).

(*d*) The comparatively predominant part played by "non-agglutinating vibrios" in the incidence of the vibrio-carrying condition (22.80 per 100 of non-agglutinating vibrio carriers in 1920 as compared with 6.54 per 100 in 1919).. This "non-agglutinating vibrio" has been (see the Philippine Health Service Annual Report for 1917) assumed (hypothetically) to be a transitional (degenerative) type of cholera vibrio occurring (Johnston, Bureau of Science, Manila, P. I.) in special abundance in the proximity (beginning or end) of epidemics, as perhaps a less virulent representative of the typical vibrio.

Therefore, while the above facts are obviously not such as to warrant a sharp conclusion in the sense of a thorough and permanent eradication of cholera as a distinctly noticeable endemic entity, yet, if given a fair and most conservative weight, such facts can but show that cholera, least in the city of Manila, is in the way of losing gradually its old epidemic character and proportions. The statement, of course, will only stand out as long as neither means nor energy will in any sense be spared, and provided the situation is so managed as to effectually eliminate the possible importation to the Islands of a foreign strain of cholera vibrios.

In order, furthermore, to either substantiate the above findings or to furnish fuller information about the extent to which cholera has been present in Manila, the following tables are herewith given:

Incidence and fatality of cholera in the city of Manila during the last four years (including transients.)

Data.	1917	1918	1919	1920
Cases	25	182	861	24
Deaths	8	123	352	3
Fatality (per 100 cases)	32	67.58	40.88	12.50
Incidence (per 1,000 population)	0.090	0.647	3.014	0.08
Mortality (per 1,000 population)	0.029	0.436	1.23	0.01

CHOLERA CARRIERS.

Report of the survey of cholera carriers, by health district, during 1920.

Health districts.	Specimens taken from—						Total.	
	Cholera contacts.		Remote contacts and food handlers.		Dead bodies (from any disease).			
	No.	Pos.	No.	Pos.	No.	Pos.	No.	Pos.
District No. 1, Intramuros	817	4	594	0	123	2	1,534	6
District No. 2, Meisic	859	6	0	0	1,281	3	2,140	9
District No. 4, Sampaloc	219	3	14	0	848	7	1,081	10
District No. 5, Tondo	231	14	0	0	1,970	7	2,201	21
District No. 6, Paco	123	0	711	7	761	1	1,595	8
Bilibid Prison	0	0	80,188	1	0	0	80,188	1
Quarantine Service	0	0	0	0	0	0	0	0
Hawaiian Sugar Planters Association	0	0	2,672	2	0	0	2,672	2
Total	2,249	27	84,179	10	4,983	20	91,411	57
Percentage		1.20	....	0.01	......	0.40	....	0.06

Number of cholera carriers found in the city of Manila during 1920, by districts.

Health districts.	Carriers.		Total.
	Living.	Dead.	
District No. 1, Intramuros	4	2	6
District No. 2, Meisic	6	3	9
District No. 4, Sampaloc	3	7	10
District No. 5, Tondo	14	7	21
District No. 6, Paco	7	1	8
Quarantine Service	0	0	0
Bilibid Prison	1	0	1
Hawaiian Sugar Planters Association	2	0	2
Total	37	20	57

Number of cholera carriers found in the city of Manila during 1920, by months.

Months.	Carriers.		Total.
	Living.	Dead.	
January	2	4	6
February	4	3	7
March	2	2	4
April	2	3	5
May	1	2	3
June	13	1	14
July	11	3	14
August	1	2	3
September	0	0	0
October	0	0	0
November	1	0	1
December	0	0	0
Total	37	20	57

As regards the survival of cholera vibrios in the system of both convalescent cases and living carriers after their release from San Lazaro the fact is also highly significant that while the investigation (when first started in 1916) showed that, although gradually decreasing in number during the 8-week survey, traces of the surviving infection were still detectable on the 8th week; in the survey of 1919 none but 1 on the third week, and 1 on the fourth week were detected, and *none at all* on any week could be discovered in 1920, out of the total of available convalescents and carriers. The particular difficulty met with in this survey consists in the extreme frequency with which these people move to some unknown and unreported residence.

Specimens taken from cholera cases and carriers after realeased from isolation at San Lazaro Hospital, by health districts, during the year 1920.

Health districts.	First week after release.		Second week after release.		Third week after release.		Fourth week after release.		Fifth week after release.		Sixth week after release.		Seventh week after release.		Eighth week after release.	
	Specimens.	Positive.	Specimens.	Positive.	Specimens.	Positive.	Specimens.	Positive.	Specimens.	Positive.	Specimens.	Positive.	Specimens.	Positive.	Specimens.	Positive.
No. 1	4	0	4	0	4	0	4	0	4	0	1	0	0	0	0	0
No. 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. 4	2	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0
No. 5	10	0	7	0	4	0	4	0	4	0	1	0	0	0	0	0
No. 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	16	0	13	0	10	0	8	0	8	0	2	0	0	0	0	0

The participation of the "non-agglutinating type" of vibrios in the epidemiology of 1920, has been comparatively abundant among carriers and absolutely nil among cases.

A detailed statement on these carriers is contained in the following two tables (1920):

"Non-agglutinating vibrio" carriers during 1920.

Case No.	Living or dead.	First.	Second.	Third.	Fourth.	First examination positive.	Last examination positive.
1	L.	Non-aggl.	Neg.	Neg.	Neg.	July 13, 1920	July 13, 1920
2	L.	Non-aggl.	Neg.	Neg.	Neg.	June 15, 1920	June 15, 1920
3	D.	Non-aggl.	Neg.	Neg.	Neg.	Jan 28, 1920	Jan. 28, 1920
4	D.	Non-aggl.	Neg.	Neg.	Neg.	Feb. 10, 1920	Feb. 10, 1920
5	L.	Non-aggl.	Neg.	Neg.	Neg.	Apr. 30, 1920	Apr. 30, 1920
6	D.	Non-aggl.	Neg.	Neg.	Neg.	May 5, 1920	May 5, 1920
7	L.	Non-aggl.	Neg.	Neg.	Neg.	June 28, 1920	June 28, 1920
8	D.	Non-aggl.	Neg.	Neg.	Neg.	July 13, 1920	July 13, 1920
9	L.	Non-aggl.	Neg.	Neg.	Neg.	July 19, 1920	July 19, 1920
10	L.	Non-aggl.	Neg.	Neg.	Neg.	Nov. 30, 1920	Nov. 30, 1920
11	L.	Non-aggl.	Neg.	Neg.	Neg.	June 21, 1920	June 21, 1920
12	L.	Non-aggl.	Neg.	Neg.	Neg.	June 22, 1920	June 22, 1920
13	L.	Non-aggl.	Neg.	Neg.	Neg.	June 22, 1920	June 22, 1920

"Non-agglutinating vibrio carriers during 1920 (by districts).

DISTRICT NO. 1, INTRAMUROS.

Addresses.	Living or dead.	Diagnosis admitted to San Lazaro Hospital.	Date positive of agglutinable vibrio.	Date positive non-agglutinable vibrio.
1. 111 Alhambra	L.	Non-agglutinable vibrio.		July 13, 1920

"Non-agglutinating vibrio" carriers during 1920—Continued.

DISTRICT NO. 2, MEISIC.

2. 423 Madrid	L.	Non-agglutinable vibrio		June 15, 1920

DISTRICT NO. 4, SAMPALOC.

3. 763 Santa Mesa	D.	Non-agglutinable vibrio		Jan 28, 1920
4. 2132 C. Matapang	D.	Non-agglutinable vibrio		Feb. 10, 1920
5. 613 Constancia	L.	Non-agglutinable vibrio		Apr. 30, 1920

DISTRICT NO. 5, TONDO.

6. 1160 int. Magdalena	D.	Non-agglutinable vibrio		May 5, 1920
7. 404 int. Tayuman	L.	Non-agglutinable vibrio		June 28, 1920
8. 158 Pavia, Tondo	D.	Non-agglutinable vibrio		July 13, 1920
9. 1321 F. Huertas	L.	Non-agglutinable vibrio		July 19, 1920
10. 147 Solis, Tondo	L.	Non-agglutinable vibrio		Nov. 30, 1920

DISTRICT NO. 6, PACO.

11. 916 int. San Marcelino	L.	Non-agglutinable vibrio		June 21, 1920
12. 444 Tejeron	L.	Non-agglutinable vibrio		June 22, 1920
13. 122 Calderon, Pandacan	L.	Non-agglutinable vibrio		June 22, 1920

If now a comparison is desired between the occurrence of such "non-agglutinating vibrio" in 1919 and 1920, the following table is submitted:

Comparative occurrence of "non-agglutinating vibrio" during 1919 and 1920.

	1919	1920
Cases.		
Total positive cholera cases	861	24
Total "non-agglutinating cases"	34	0
Percentage of "non-agglutinating cases"	3.95	
Carriers.		
Total positive cholera carriers	350	57
Total non-agglutinating carriers	43	13
Percentage of non-agglutinating carriers	1.14	22.80

ANTICHOLERA VACCINATION.

About the end of the year 1919, a Committee formed by Senior Medical Inspector, Philippine Health Service, José P. Bantug; Dr. Otto Schöbl, Department of Serology, Bureau of Science, and Assistant Surgeon, Philippine Health Service, Proceso Gabriel, was designated to determine the advisability of implanting anticholera vaccination in the Philippines as a prophylactic measure against Asiatic cholera, and to seek out the best methods for administering the vaccine." (Special Order No. 11, issued on November 10, 1919.)

Early in the next year, the committee rendered a very comprehensive report of which the following is a

RÉSUMÉ OF FINDINGS AND RECOMMENDATIONS.

1. Cholera vaccine produces less reaction than typhoid.
2. The second injection appears to produce lesser reaction than the first one.
3. The preparation to be used should be a vaccine, which has been killed by heat of 60° C. for one half hour and carbolized. It should contain 1,000 millions per 1 cc.
4. The dose for healty adults in the Philippine should be 1,000 millions.
5. One injection should be given in case of field vaccination on a large scale. If practicable 2 injections should be given (500–1,000 millions).
6. The public should be enlightened on the subject by leaflets in plain intelligible language as to the nature of the vaccination and its advantages.
7. Anticholera vaccination should be practiced by physicians in charge of health stations and provincial health officers on cholera contacts.
8. Private physicians desiring to use the vaccine should be encouraged.

The inoculations begun on about the month of March, 1920, the subjects for inoculation being selected from different groups of the population as follows:

(*a*) Contacts of cholera (cases and carriers) including "remote contacts," or those at some distance of the focus but practically in the neigborhood.

(*b*) Great recruitments of laborers for interisland immigration or those to go abroad.

(*c*) Food handlers (hotels waiters, etc.); government employees and troops; industrial laborers and attendants, etc.

Due to the small number of cholera cases and carriers during 1920, the contacts whereof being the only one group, or group (*a*) in which vaccination was at once made compulsory; and owing, on the other hand, to the fact that in the other groups vaccination was but a semi-compulsory measure, the grand total during the whole year, in the city of Manila, could not exceed 15,623 distributed as follows:

Anti-cholera vaccinations in the city of Manila during 1920.

District and month.	Males.		Females.		Total vaccinated.	
	Adults.	Children.	Adults.	Children.		
No. 1, Intramuros:						
January	0	0	0	0	0	
February	0	0	0	0	0	
March	0	0	0	0	0	
April	0	0	0	0	0	
May	0	0	0	0	0	
June	0	0	0	0	0	
July	776	49	393	37	1,255	
August	0	1	1	0	2	
September	9	0	3	0	12	
October	3	0	2	0	5	
November	0	0	0	0	0	
December	24	0	0	0	24	1,298
No. 2, Meisic:						
January	0	0	0	0	0	
February	0	0	0	0	0	
March	0	0	0	0	0	
April	0	0	0	0	0	
May	0	0	0	0	0	
June	420	9	309	26	764	
July	1,594	39	1,172	61	2,866	
August	595	114	453	178	1,340	
September	320	14	117	13	464	
October	191	10	18	3	222	
November	188	7	27	1	223	
December	327	6	24	3	360	6,239
No. 4, Sampaloc:						
January	0	0	0	0	0	
February	0	0	0	0	0	
March	0	0	0	0	0	
April	0	0	0	0	0	
May	0	0	0	0	0	
June	350	2	97	10	459	
July	434	35	593	57	1,119	
August	0	0	0	0	0	
September	0	0	0	0	0	
October	0	0	0	0	0	
November	0	0	0	0	0	
December	0	0	0	0	0	1,578
No. 5, Tondo:						
January	0	0	0	0	0	
February	0	0	0	0	0	
March	0	0	0	0	0	
April	0	0	0	0	0	
May	0	0	0	0	0	
June	419	166	166	117	868	
July	299	144	326	96	865	
August	0	0	0	0	0	
September	153	101	134	60	448	
October	109	48	145	26	328	
November	0	0	0	0	0	
December	21	35	20	26	102	2,611
No. 6, Paco:						
January	0	0	0	0	0	
February	0	0	0	0	0	
March	0	0	0	0	0	
April	0	0	0	0	0	
May	0	0	0	0	0	
June	163	177	233	174	747	
July	991	288	703	239	2,221	
August	364	94	388	78	924	
September	0	0	2	3	5	
October	0	0	0	0	0	
November	0	0	0	0	0	
December	0	0	0	0	0	3,897
General total	7,849	1,240	5,326	1,108	....	15,623

The above furnishes an index of immunization against cholera in the city of Manila equivalent to 55 persons immunized per 1,000 population.

As regards the results of the vaccination and in so far as our experience is concerned the following has been observed:

1. No severe, or even moderately serious reaction has been observed either local or general.
2. No case of cholera (not even suspected cases) have been recorded among immunized people.
3. Carriers, as expected, were not in the least affected as such by immunization.

TYPHOID FEVER.

There is no general consensus as yet, or rather universal agreement as regards the true sense of the term "residual typhoid" not long ago introduced in epidemiological nomenclature. It is, however, most often spoken of as the "normal (?) typhoid incidence" in a locality after, and despite the fact that both water supplies and sewerage have been made a permanently settled up question. This too liberal sense attached to the term is to say the least dangerous, if not altogether unacceptable especially to sanitarians working in the tropics. Popular education may of course be a good substitute for a number of preventive measures of a public nature, except such public improvements as those which being of vast and costly importance (sanitary water works and sewerage) are in the incumbency of the municipal administration to accomplish. But, where a lesser degree of education calls accordingly for certain degree of paternalism in sanitation, it is not before all means and efforts towards the eradication and prevention of typhoid fever or other infection, have been exhaustively employed by health authorities that sanitarians can rightly speak of the so-called "residual infection."

In the case of the Philippines, or rather in the city of Manila, it cannot be said as yet that we are far or near the posibility of determining what figures would correspond to our "residual typhoid."

By way of explanation it seems well to invite the attention of the reader to the following points:

1. Prior to 1917 the status of typhoid fever as a dangerous communicable disease was an entirely unsettled question. Aside from the simple reporting of cases without further official control in the management of each case, nothing had been done, and it is but just to state that even the required notification by the attending physician was but a theoretical ruling very seldom if ever fulfilled.

2. It was only in 1916 that special attention was given this epidemiological study by appointment of a committee the reports

of which together with the official procedure in the management and control of typhoid fever by this Service were given publicity in our annual report of 1917.

3. The three points of most practical epidemiological importance drawn from the above work are:

(*a*) The pressing indispensable need for a thorough, early, and accurate notification of cases.

(*b*) The *serological diagnosis* (or other laboratory tests) established as early as practicable, with particular reference to the rôle (partial or total) played by Paratyphoid A or Paratyphoid B.

(*c*) The recognition of "contact infection" (*prosodemic* infection of Sedgwick and Winslow) as the main or almost exclusive source of infection of the local (city of Manila) typhoid fever.

If it is now desired to gain a fairly thorough knowledge of how far these needs have been up to the present met with, following is a table of the incedence, fatality, and the extent to which hospitalization has been resorted to during 1920:

Cases and deaths reported as typhoid during 1920 (residents only).

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Living cases reported	20	13	23	12	28	39	60	79	45	48	68	79	514
Deaths among cases reported	2	2	8	4	7	16	18	41	19	20	19	32	188
Deaths not previously reported as cases	4	2	2	3	2	4	8	4	0	5	6	7	47
Patients treated at home	4	2	9	6	8	20	20	39	19	16	21	27	191
Patients treated at hospital	16	11	14	6	20	19	40	40	26	32	47	52	323

It will be noted that while the first two lines which are supposed to represent the monthly and total yearly incidence as well as the fatality of typhoid (514 cases and 188 deaths), their inaccuracy is apparent since in the next (3d) line 47 deaths are likewise reported whereas they failed to be reported as living cases. In order therefore to obtain approximately correct figures in these items it would be necessary to find out how many living cases would correspond to these 47 deaths at the fatality rate established for cases reported alive. As this fatality per 100 is 36.57, the approximately correct figures would be: *642 cases; 235 deaths* the difference being due to 128 unreported living cases, about 25 per 100 of the reported cases.

It is thus seen that although the improvement attained in the reporting of cases (point (*a*) of the above epidemiological scheme) as carried out by private physicians and official and private hospitals, has been great, yet we feel bound to admit that such report of typhoid cases is still far from satisfactory.

In regard to point (*b*) (early serological diagnosis) it is to be stated that out of the three recognized laboratory tests for typhoid (blood culture, Widal reaction and stool examination) none but the Widal reaction, if any, was employed particularly in patients treated in hospitals. Blood culture, on account of the delayed call to the family doctor and the still more delayed report to the health stations, is almost never applicable, and the stool examination, owing to certain difficulties attached to the collection of specimens and other circumstances, proved so far a practical failure not only for cases but for "presumptive carriers" as well. The Widal reaction, on the other hand, has not thus far won much popularity among certain members of the medical profession even in the city of Manila, and it is most often to clinical confirmation only that they resort to. Where the importance of such test is not recognized, any typhoid survey will fail to be thorough and complete.

As to point (*c*) "contact-infection," the main and almost exclusive source or means of transmission of typhoid in Manila it is to be stated that this classic "three-week-lasting disease" has so far failed to awaken the watchful interest of the people for simple reasons which may be reduced to these two: (1) typhoid has not the alarming onset and rapid severe course as cholera, for instance, plague, smallpox, or diptheria use to show; (2) the co-existence in the locality of a number of fever infections (not typhoid) makes the people, and sometimes the family physicians, rather optimistic, as fever, they say, needs not be always typhoid, with the result that the diagnosis (scientific or clinically empiric) is thus greatly delayed, and then isolation, treatment and any procedure of concurrent disinfection are also accordingly delayed, a fact that distinctly contributes indeed in making the typhoid death-rate and incidence unduly high.

Under these circumstances, it appears perfectly justified to state that there is no possibility at present, nor will there be any but after some time, to give a definite figure which could fairly well represent what the "residual typhoid fever" is or may be in the city of Manila.

Other data of interest in the occurrence of typhoid during 1920 in Manila, are as follows:

Cases reported alive during the past six years.

Years.	Cases reported.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
1915	9	4	7	9	5	9	17	4	10	10	15	8	107
1916	12	2	12	11	24	33	20	26	18	14	14	57	243
1917[a]	31	9	21	17	20	23	11	12	52	39	66	47	348
1918	38	29	51	29	29	23	33	39	57	100	53	37	518
1919	46	42	53	47	41	42	40	36	40	29	34	28	478
1920	20	13	23	12	28	39	60	79	45	48	68	79	514

[a] Notification enforced.

The preceding table seems to suggest the following two features:

(1) That from 1915 to 1920, and in all probability due to improved notification, there has been a steady increase in the total cases reported each year. It is not impossible, however, that the 1920 figures and those of 1918 as well (as may be confirmed by other table) represent a mild ill-defined outbreak.

(2) A clearly established prevalence (perhaps equivalent to periodical or "normal" outbreaks) during the second half of each year, as noticeable in the following comparative table:

Prevalence of typhoid in the city of Manila for the past six years.

Years.	First half.	Per cent.	Second half.	Per cent.
1915	43	40.18	64	59.82
1916	94	38.68	149	61.32
1917	121	34.77	227	65.23
1918	199	38.42	319	61.58
1919	271	56.69	207	43.31
1920	135	26.26	379	73.74
Yearly average	143.83	39.17	224.17	60.83

If a more comprehensive table is desired as to the course followed by typhoid from six (6) years back up to the present time, the following is given as the best available epidemiological evidence for such course:

Typhoid fever in Manila.

1	2	3	4	5	6
Years.	Cases.	Incidence per 10,000 population.	Deaths.	Case fatality per 100.	Mortality per 10,000 population.
1915	107	3.97	91	85.05	3.37
1916	243	8.88	98	40.33	3.58
1917[1]	525	18.91	199	37.91	7.16
1918	497	17.72	118	23.72	4.19
1919	511	17.92	189	36.98	6.62
1920[2]	642	22.16	235	36.49	8.11

[1] Compulsory notification enforced.

[2] Figures of cases and deaths have been corrected so as to include all real typhoid deaths and cases not reported while alive.

Of these six (6) columns, there are but those marked 3 and 6 (incidence and mortality per 10,000 population) which show for 1920 a rather high incidence and mortality per 10,000 population. Although these figures may correspond to improved notification and diagnosis, they might also suggest, though not conclusively, the possibility of a mild outbreak in 1920.

Typhoid carriers.—It has been almost conclusively evidenced by the "Typhoid Committee" that "contact infection" is the main, if not the only, means of transmission or spread of typhoid in Manila. Doubtless, on the other hand, it was not the intention of the Committee to give to the term "contact infection" a wider sense than it is usually given in epidemiology. Whatever the means of transmission or spread may be, it may always be assumed to include necessarily a "contact" no matter how close or how distant may the invaded subject be from the patient or carrier of typhoid from which the infection originated. All depends on the so-called "long or short circuit" the infection has to travel before reaching the non-infected person, it having been the universal agreement to reserve to the latter ("short circuit" the especially applied term "contact infection." So much is this so that in repeated surveys made in Manila of the drinking water used in low class restaurants and food *tiendas* water samples were too often found heavily polluted, whereas a similar survey made in the original sources of drinking water (city street hydrants, wisely managed artesian wells, and even government plants of water purification) have conclusively proven to be in a perfectly sound condition. This by no means can be at all considered a water-borne typhoid.

Under such circumstances, it is obvious that the search and detection of "typhoid carriers" become of prime importance, but it is disappointing to learn that efforts towards that end have been of little or no avail as shown in the following table:

Examination of blood and stool specimens from contacts, food-handlers and others during the year 1920.

Health districts.	Blood specimens for Widal test.					
	Contacts.			Food-handlers and others.		
	Total.	Pos.	Neg.	Total.	Pos.	Neg.
District No. 1, Intramuros	97	1	96	1,110	13	1,097
District No. 2, Meisic	105	0	105	350	5	345
District No. 4, Sampaloc	455	6	449	249	3	246
District No. 5, Tondo	12	0	12	136	1	135
District No. 6, Paco	70	0	70	334	0	334
Total	739	7	732	2,179	22	2,157

Health districts.	Stool specimens for B. Typhosus.					
	Contacts.			Food-handlers and others.		
	Total.	Pos.	Neg.	Total.	Pos.	Neg.
District No. 1, Intramuros	1	0	1	13	1	12
District No. 2, Meisic	54	0	54	0	0	0
District No. 4, Sampaloc	62	1	61	0	0	0
District No. 5, Tondo	0	0	0	0	0	0
District No. 6, Paco	0	0	0	0	0	0
Total	117	1	116	13	1	12

In view of the foregoing, the Service has so revised its scheme as to repeatedly insist on:

I. *Early* notification of all cases of fever (typhoid suspected or not).
II. *Diagnostic* means (the earlier the better) to be *never omitted.*
III. Early isolation and treatment. As far as possible, hospitalization to be made compulsory.
IV. Most accurate information by careful filling of individual case cards.

For the needs of the moment insist again and again on:

V. Improved and more effective means (a laboratory problem) for the detection of bacilli in the blood, feces and urine.
VI. Anti-typhoid vaccination compulsory.

Anti-typhoid vaccination.—Although not formally inaugurated as a wholesale measure until late in the year (August, 1920), not less than 9,445 has been the total number of injections distributed as follows:

Report of anti-typhoid fever vaccinations in the city of Manila during 1920.

Districts.	Males.		Females.		Injections.			Total vaccinated.	
	A-dults.	Child-ren.	A-dults.	Child-ren.	First.	Sec-ond.	Third.		
No. 1, Intramuros:									
January	0	0	0	0	0	0	0	0	
February	0	0	0	0	0	0	0	0	
March	0	0	0	0	0	0	0	0	
April	0	0	0	0	0	0	0	0	
May	0	0	0	0	0	0	0	0	
June	0	0	0	0	0	0	0	0	
July	0	0	0	0	0	0	0	0	
August	2	0	0	0	2	0	0	2	
September	30	8	21	5	47	14	3	64	
October	350	19	28	7	252	139	13	404	
November	276	20	119	11	220	113	93	426	
December	172	9	37	8	75	81	70	226	1,120
No. 2, Meisic:									
January	0	0	0	0	0	0	0	0	
February	0	0	0	0	0	0	0	0	
March	0	0	0	0	0	0	0	0	
April	0	0	0	0	0	0	0	0	
May	0	0	0	0	0	0	0	0	
June	0	0	0	0	0	0	0	0	
July	0	0	0	0	0	0	0	0	
August	17	0	11	0	14	14	0	28	
September	108	6	151	8	206	37	30	273	
October	488	10	451	12	922	30	9	961	
November	146	36	123	33	227	76	35	338	
December	247	49	217	40	397	108	48	553	2,153
No. 4, Sampaloc:									
January	0	0	0	0	0	0	0	0	
February	0	0	0	0	0	0	0	0	
March	0	0	0	0	0	0	0	0	
April	0	0	0	0	0	0	0	0	
May	0	0	0	0	0	0	0	0	
June	0	0	0	0	0	0	0	0	
July	0	0	0	0	0	0	0	0	
August	60	0	40	0	7	53	40	100	
September	69	6	31	3	86	13	10	109	
October	182	9	107	0	130	108	60	298	
November	101	6	151	16	106	95	73	274	
December	53	12	75	19	68	52	39	159	940
No. 5, Tondo:									
January	0	0	0	0	0	0	0	0	
February	0	0	0	0	0	0	0	0	
March	0	0	0	0	0	0	0	0	
April	0	0	0	0	0	0	0	0	
May	0	0	0	0	0	0	0	0	
June	0	0	0	0	0	0	0	0	
July	0	0	0	0	0	0	0	0	
August	35	1	48	3	84	3	0	87	
September	48	12	51	9	95	25	0	120	
October	110	10	96	10	141	59	26	226	
November	50	11	60	7	105	18	5	128	
December	113	26	129	9	200	69	8	277	838
No. 6, Paco:									
January	0	0	0	0	0	0	0	0	
February	0	0	0	0	0	0	0	0	
March	0	0	0	0	0	0	0	0	
April	0	0	0	0	0	0	0	0	
May	0	0	0	0	0	0	0	0	
June	0	0	0	0	0	0	0	0	
July	0	0	0	0	0	0	0	0	
August	0	0	0	0	0	0	0	0	
September	47	9	52	11	90	16	13	119	
October	1,123	294	250	67	869	565	300	1,734	
November	613	473	520	182	878	724	186	1,788	
December	244	156	273	78	308	40	403	751	4,392
General total	4,684	1,182	3,041	538	5,529	2,452	1,464	......	9,445
Percentage	......	......	......	......	......	44.34	59.71	....	

The principal limitation to the use of the vaccine, as it is now prepared, lies on the fact that it requires not less than three consecutive inoculations (a total of 1,250 dead bacilli including Para A and Para B bacilli), if a fairly safe immunization is sought for. The objections, as specified by the laity consist in (*a*) that reaction following the 1st. injection is so troublesome (not severe) as to discourage people from accepting a second and a third injection; and (*b*) that the period of two weeks comprised within the intervals of the three (3) injections results in great inconvenience for whatever activity a person may be engaged in. These objections are fully substantiated by the figures on the above table wherein it is seen that no more than 44.34 per 100 of people receiving the first injection submit themselves to the second, and only 59.71 per 100 of the latter (people receiving second injection) submit themselves to the third. Whether or not, and to what extent, people receiving but one or at most two injections are benefited, judged upon their respective power of producing "anti-bodies," it is not known obviously for the reason that these groups of persons, as a rule, are no longer available after the first or the second injection. It may be stated, however, in justice to this vaccine, that it has in no case shown itself to be productive or severe or too long stage of reaction, nor is there any well authenticated record of fully immunized people having contracted typhoid.

Just to meet these limitations to the extensive use of the vaccine, steps have been taken with the Serological Department of the Bureau of Science (the Philippine Health Service has not so far been given authority to have its own laboratory) so that either "sensitized mixed vaccine" or a true "lipo-vaccine" be prepared the object being twofold as follows:

1. To avoid the risk of indiscriminately increasing, without control, the number of bacteria per c. c. thus making the stage of reaction far more comfortable; and
2. To reduce, if practicable, to a single one the three injections now required to create a state of satisfactory immunization.

Indications at present are that the Bureau of Science will, within a short time, kindly yield to our request, for which the appreciation of this Service is hereby sincerely extended.

DYSENTERIES.

This term is purposely used in plural as a frank admission that the yearly survey made by the Service still keeps far away from any attainment which might be considered satisfactory.

Intestinal infections, such as cholera, typhoid and dysentery offer many features in common especially in so far as means of control and prevention are concerned. In this particular sense, the epidemiological survey on dysentery is greatly handicapped by nearly the same difficulties as that of typhoid—the reason perhaps being that both problems have not been raised as epidemiologically serious problems prior to 1916, viz.: hardly a year after the reorganization of the Service in 1915.

Here too, as in typhoid fever, the leading problem arises above all others, from the little importance that so far has been attached to a correct laboratory diagnosis. Despite the fact that this correct diagnosis has a conclusive bearing on the treatment of a case of dysentery, yet the *clinical diagnosis* remains to be the supreme criterion on the premises. The other side of the question—the laboratory diagnosis—is practically overlooked, inasmuch as either the routine procedure of collecting and shipping stool samples, or the usual technique employed in the examination may be at fault.

Thus, the progress attained in the management and control of dysentery, viz.: a more asiduous notification of cases and the not too much objected removal of cases to hospital are of little avail as long as both "notification cards" and "case cards" will—with the exception of cards from the Philippine General Hospital, San Juan de Dios Hospital and sometimes Saint Paul's Hospital—contain no diagnosis other than the old-time empiric brand "Dysentery."

With these limitations in mind, the following table is given as a substitute for a full, thorough and accurate numerical report:

Total cases reported as "dysentery" in the city of Manila, during 1920 (residents only).

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Cases reported	36	25	9	14	26	50	97	51	56	37	46	34	481
Deaths	15	11	4	6	8	23	48	19	32	13	24	18	221
Deaths not previously reported as cases	3	2	7	3	3	3	7	7	2	4	0	3	44
Patients treated at home	16	11	5	9	9	25	50	36	40	16	26	19	262
Patients treated at hospital	20	14	4	5	17	25	47	15	16	21	20	15	219

This table, however, as the similar one for typhoid fever, needs be corrected so as to find the approximate number of cases from the number of deaths never reported as cases. Thus, the correct figures would approximately be:

Total cases in 1920	(95 not reported)	576
Total deaths in 1920		265
Fatality per 100		46
Percentage of cases treated at hospitals		45.53

Under exactly the same circumstances, the comparison with previous years would give a favorable margin for 1920, as follows:

Dysentery.	**1917.**	**1918.**	**1919.**	**1920.**
Cases	851	839	737	576
Deaths	294	218	414	265
Fatality (per 100 cases)	34.54	25.98	56.03	46
Incidence (per 1,000 population)	2.92	2.79	2.59	1.98
Mortality (per 1,000 population)	1	.72	1.45	.91

Dysentery carriers.—Although the importance of "Dysentery carriers" has never been so great as with those of typhoid, yet the Service did not overlook the possible bearing of such carriers upon the incidence of dysentery (particularly bacillary dysentery) with the result that, during 1920, not less than 2,011 stool specimens, from contacts of cases alone, were sent to the laboratory for examination, but with such a small number of carriers found (4 in total) that the doubt again comes to the mind as to where in the long way travelled by the specimens máy the wrong, if any, exist.

Stool specimens taken from contacts of dysentery cases in the city of Manila, during 1920.

Health districts.	Total samples.	Positive.	Negative.
District No. 1, Intramuros	1,084	2	1,082
District No. 2, Meisic	590	0	590
District No. 4, Sampaloc	236	1	235
District No. 5, Tondo	11	0	11
District No. 6, Paco	90	1	89
Total	2,011	4	2,007
Percentage	100	0.20	99.80

DIPHTHERIA.

Diphtheria, although always present in the city of Manila, shows no tendency toward any increase which could be aptly regarded as an alarming or epidemic occurrence. Just about six years ago (1915) an extensive survey was made to discover not so much the cases which were known to be but few, but the hidden foci as represented by a possibly unexpectedly great number of "carriers." Certain of the cases having shown to be directly or indirectly related to the school children, the survey was made to cover not only households and families under suspicion (history of contact, or presence of previous carriers), but above all children of school age, and centers where school attendance is numerous and where conditions are most fitted for a rapid and uncontrollable spread, wherefrom the name of "school-borne infection" has ever since been won by diphtheria.

Through a rigid seclusion (hospitalization) of cases and carriers great inconvenience was perhaps created to hundred of school pupils who regardless of any elaborate discrimination between virulent or avirulent strain of the bacilli harbored, were sent to a sort of "observation camp" in San Lazaro, but the pressure of circumstances, chief among which were (*a*) the inadequate help furnished by the available laboratory facilities; (*b*) Schick reaction outfits not available; (*c*) Diphtheria toxin-antitoxin not in much vogue at that time, could but suggest the procedure followed as the safest one the Service could adopt.

Years later diphtheria went on the decline until 1918 in which the yearly survey gave this result:

Diphtheria in Manila, 1918 (residents only).

Health districts.	Total cases reported	Positive clinically and bacteriologically.		Positive clinically only.		Gross total found positive.	
		Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
District No. 1, Intramuros	19	1	1	12	0	13	1
District No. 2, Meisic	13	0	0	9	4	9	4
District No. 4, Sampaloc	11	0	0	6	2	6	2
District No. 5, Tondo	18	0	0	8	2	8	2
District No. 6, Paco	9	1	0	8	6	9	6
Total	70	2	1	43	14	45	15
Per cent positive	....	2.86	....	61.42	....	64.28	....
Fatality per 100	....	....	50.00	....	32.55	....	33.33

The increase has then been apparent during 1919 and 1920, as may be seen in the following two tables:

Diphtheria in Manila, 1919 (residents only).

Health districts.	Total cases reported.	Positive clinically and bacteriologically.		Positive clinically only.		Gross total found positive.	
		Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
No. 1, Intramuros	13	2	0	10	2	12	2
No. 2, Meisic	18	3	2	13	4	16	6
No. 4, Sampaloc	16	4	0	7	4	11	4
No. 5, Tondo	15	2	1	10	4	12	5
No. 6, Paco	7	1	0	5	2	6	2
Total	69	12	3	45	16	57	19
Per cent positive	....	17.39	....	65.21	....	82.61	....
Fatality per 100	....	....	25.00	....	35.55	....	33.33

Diphtheria in Manila, 1920 (residents only).

Health districts.	Total cases reported.	Positive clinically and bacteriologically.		Positive clinically only.		Gross total found positive.	
		Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
District No. 1, Intramuros	17	9	1	6	1	15	2
District No. 2, Meisic	16	9	1	4	0	13	1
District No. 4, Sampaloc	8	3	0	2	1	5	1
District No. 5, Tondo	23	13	3	4	3	17	6
District No. 6, Paco	0	0	0	0	0	0	0
Total	64	34	5	16	5	50	10
Per cent positive		53.12		25.00		78.12	
Fatality per 100			14.70		31.25		20

The survey of "diphtheria carriers" during the three (3) previous years shows the number and distribution as follows:

Years.	Carriers.		Total.
	Household.	School.	
1918	4	0	4
1919	48	66	144
1920	31	0	31

A detailed statement of the occurrence and fatality of diphtheria in Manila, during 1920, including transients (non-residents) is as follows:

Cases and deaths from diphtheria, reported in the city of Manila, including non-residents, during 1920.

	Residents reported.		Non-residents reported.		Total.	
	Living.	Dead.	Living.	Dead.	Living.	Dead.
January	5	0	1	0	6	0
February	11	0	2	0	13	0
March	4	0	3	0	7	0
April	3	0	2	0	5	0
May	3	0	0	0	3	0
June	14	0	2	0	16	0
July	3	0	1	0	4	0
August	3	0	2	0	5	0
September	4	1	3	0	7	1
October	6	0	0	0	6	0
November	3	0	0	0	3	0
December	4	0	0	0	4	0
Total	63	1	16	0	79	1
Per cent positive						
Fatality per 100						

Cases and deaths from diphtheria, reported in the city of Manila, including non-residents, during 1920—Continued.

	Found positive.				Total.	
	Residents.		Non-residents.			
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
January	4	2	0	0	4	2
February	9	2	2	1	11	3
March	4	0	3	2	7	2
April	3	2	2	1	5	3
May	2	0	0	0	2	0
June	12	2	2	0	14	2
July	3	0	1	0	4	0
August	3	0	2	1	5	1
September	2	0	3	2	5	2
October	4	1	0	0	4	1
November	2	1	0	0	2	1
December	2	0	0	0	2	0
Total	50	10	15	7	65	17
Per cent positive	78.12		93.75		81.25	
Fatality per 100		20.00		46.66		26.15

Diphtheria carriers.—Carriers, with a total of 31 are distributed by months and by districts, in this way:

Number of diphtheria carriers during 1920 (by months).

January	5
February	6
March	2
April	1
May	4
June	1
July	1
August	2
September	1
October	3
November	4
December	1
Total	[1] 31

Number of diphtheria carriers during 1920 (by districts).

District No. 1, Intramuros	11
District No. 2, Meisic	7
District No. 4, Sampaloc	4
District No. 5, Tondo	6
District No. 6, Paco	3
Total	[1] 31

[1] Two cases of measles found positive for diphtheria bacilli are included.

From the above data, and especially from the course followed by diphtheria during the three (3) previous years, it is apparent:

I. That a marked increase has been noticeable in—

(*a*) The rate of "cases positive bacteriologically and clinically" from the total number of "suspects" reported—2.86 per 100 for 1918; 17.39 for 1919; 53.12 for 1920.

(*b*) The rate of total "positive cases" (either bacteriologically, or only clinically) from the total number of "suspects" reported—64.28 per 100 for 1918; 82.61 for 1919; 78.12 for 1920.

(*c*) The number of "carriers"—4 for 1918; 144 for 1919; 31 for 1920.

II. That, from the number of "positives" and "carriers" for 1919—the highest figures recorded in the three (3) years—there are reasons to believe that a small "outbreak" occurred in such year, with the greatly significant particular that 66, out of 144 carriers, were traced and discovered in only one educational institution.

III. That the decreasing fatality per 100—33.33 for 1918; 33.33 for 1919; 20 for 1920—is not to be accounted for a lesser virulence of the infection, but for an earlier disposal of cases and corresponding earlier employment of the specific treatment.

The foregoing, while not suggestive of any actual danger, would offer good ground to recommend:

1. That the preliminary work on the local epidemiology of diphtheria, as started by Drs. Liborio Gomez and C. Gavino, be continued, insisting especially on a new and practical method of testing and rating the virulence of the bacilli harbored by "carriers."
2. That surveys from time to time of "presumptive carriers," especially in primary schools, be never neglected or entirely omitted.
3. That, as the basis for a scientific protection of exposed children the use of "Schick reaction" to test the condition of immunity and the subsidiary administration of "diphtheria toxin-antitoxin" to attain an effective state of protection, be liberally encouraged.

SMALLPOX AND ANTIVARIOLIC VACCINATION.

It is extremely satisfactory to state that both smallpox and varioloid have proved themselves to be (from the last epidemic of 1918) a class of infection so rapidly and successfully amenable to effective control that in 1920 they have appeared as practically "nil" as regards smallpox, and absolutely "nil" as regards varioloid.

The following table will fitly substantiate the statement:

Cases and deaths from smallpox, varioloid and varicella in the city of Manila during 1920.

Months.	Smallpox.		Varioloid.		Varicella.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
January	0	0	0	0	9	0
February	0	0	0	0	56	0
March	5	[a]3	0	0	75	0
April	0	0	0	0	88	0
May	0	0	0	0	32	0
June	0	0	0	0	8	0
July	0	0	0	0	12	0
August	0	0	0	0	15	0
September	0	0	0	0	3	0
October	0	0	0	0	6	0
November	0	0	0	0	6	0
December	0	0	0	0	7	0
Total	5	3	0	0	317	0

[a] Two of these deaths were among non-residents who contracted the disease in **Manila.**

With respect to varicella (or chicken-pox) it remains to be a minor epidemiological factor as it fails to affect at all and at any time the population death-rate. Negligible, however, as it is, and aside from certain difficulties met with when a differential diagnosis is attempted between certain forms of varicella and varioloid, the only interesting feature of its occurrence is the "inverse ratio" in which smallpox and varicella are observed to occur.

Year.	Smallpox.	Varicella.
1915	3	112
1916	1	56
1917	3	130
1918	1,326	0
1919	57	156
1920	5	317

ANTI-VARIOLIC VACCINATION AS CARRIED OUT IN THE CITY OF MANILA DURING 1918, 1919, and 1920.

Two great difficulties had to be confronted in the past by the Service in its efforts to secure the necessary amount of protection for the city so as to avoid occasional recurrence of smallpox from time to time.

From the time in which the smallpox was practically eradicated in the city of Manila to the year 1918 (about 9 years) in which the epidemic reappeared certainly in one of its severest forms, hundred after hundred of thousands of people were yearly vaccinated and revaccinated with the most unfortunate result that the 1918 epidemic looks *prima facie* as a flagrant failure of the classic immunization towards future epidemics.

Obviously, the epidemic moment called for a revision of the classic methods of vaccination, and it was through a painstaking study and consideration of our records as compared with the situation that the fact was plainly disclosed that our hundred of thousands of yearly vaccinations were nothing but a fruitless attempt since a very important group of such population was overlooked and in fact unwisely spared in the immunization scheme. Through a combination of circumstances among which had gained undue prominence the country-wide fear of accepting antivariolic vaccination for children of less than six months to one year age, there was thus formed an aggregate numerous group of unprotected people, too hardly, if at all possible, to trace and identify after months or years have elapsed since first seen when nearly new-born. Just on the occasion of the 1918 epidemic, cases were on records of children of 40 to 43 days of age who contracted, and certainly died from, virulent (confluent) smallpox. It was then the moment for a *general alarm,* and rush orders were accordingly issued for the "immediate compulsory vaccination of all children from not less than 30 days age on, or earlier, if the children's family so desire."

Whether or not this intensified campaign of immunization has been instrumental in the rapid abatement of the epidemic may be seen in these figures: 1918, 1,326 cases; 1919, 57 cases; 1920, 5 cases.

A numerical statement of vaccination of children under 1-year age is as follows:

Numerical statement of vaccinations in children under one year of age in the city of Manila during 1920.

Districts.	Vaccinations.									
	Total.		1–2 months.		2–3 months.		3–6 months.		6–12 months.	
	Never vaccinated.	Previously negative.	Never vaccinated.	Previously negative.	Never vaccinated.	Previously negative.	Never vaccinated.	Previously negative.	Never vaccinated.	Previously negative.
Intramuros	1,308	517	915	356	222	82	149	62	22	17
Meisic	4,956	1,661	2,619	880	1,130	383	1,089	365	118	33
Sampaloc	2,382	1,228	1,401	724	611	319	317	159	53	26
Tondo	6,088	2,167	2,530	940	1,702	606	1,690	595	166	26
Paco	1,905	846	1,538	587	266	189	90	62	11	8
Total	16,639	6,419	9,003	3,487	3,931	1,579	3,335	1,243	370	110

Districts.	Inspections.							
	Total inspections.			1–2 months inspections.				
	Positive.	Negative.	General Positive per 100.	Never vaccinated.	Positive.	Previously negative.	Positive.	Positive per 100.
Intramuros	2,117	467	81.92	1,390	1,160	551	414	75.94
Meisic	3,486	1,422	71.03	1,923	1,370	825	588	71.75
Sampaloc	2,047	893	69.62	1,304	966	560	415	74.08
Tondo	2,204	1,137	65.93	1,019	739	550	433	74.69
Paco	1,918	354	84.31	1,241	1,018	405	358	82.97
Total	11,772	4,273	73.37	6,877	5,253	2,891	2,208	76.38

Numerical statement of vaccinations in children under one year of age in the city of Manila during 1920—Continued.

Districts.	Inspections.									
	2-3 months inspections.					3-6 months inspections.				
	Never vacci-nated.	Positive.	Previously negative.	Positive.	Positive per 100.	Never vacci-nated.	Positive.	Previously negative.	Positive.	Positive per 100.
Intramuros	260	204	98	94	83.24	159	129	78	71	84.38
Meisic	858	618	369	266	72.04	622	387	261	208	67.38
Sampaloc	492	287	211	124	58.46	218	143	94	62	65.70
Tondo	609	321	262	164	55.68	525	304	226	163	62.18
Paco	266	221	189	169	85.71	90	78	62	56	88.15
Total	2,485	1,651	1,129	817	68.28	1,614	1,061	721	560	69.42

Districts.	6-12 months inspections.					Percentage of successful vaccinations.					Babies registered with permanent residence.
	Never vacci-nated.	Positive.	Previously negative.	Positive.	Positive per 100.	First time.	Second time.	Third time.	Fourth time.	Total.	
Intramuros	34	32	14	13	93.75	81	13	4	2	100	1,685
Meisic	35	34	15	15	98.00	71	18	7	4	100	2,212
Sampaloc	39	30	22	20	81.96	66	17	8	9	100	2,001
Tondo	120	68	30	12	53.33	70	18	8	4	100	3,977
Paco	11	10	8	8	94.73	80	17	2	1	100	1,498
Total	239	174	89	68	73.78	73	17	6	4	100	11,372

From the above table, the following résumé may be drawn:

Total, 1 to 12 month children vaccinated	23,058
Total, 1 to 12 month children inspected	16,045
Percentage inspected	59.58
Total inspected "positive"	11,772
Percentage "positive"	73.37

The principal objections raised against the method were as follows:

(*a*) A certain amount of "natural immunity" alleged to exist in 1-month babies. Thence, such an early vaccination, if not actually dangerous, would only prove a source of unnecessary trouble.

(*b*) Supposed trivial after-effects: severe local or general reaction (vaccinia), provoked extension of existing skin eruptions (eczema, scabies, etc.); severe cellulitis.

While in reply to the latter point (*b*) it would suffice to mention the fact that none of the allegations contained therein has been substantiated in a close personal supervision exercised by the Medical Officer in charge of the vaccination squad (about 20 Public Health Nurses and 14 Sanitary Inspectors), the fallacy of point (*a*) can easily be demonstrated by means of the partial tables quoted below the figures of which show themselves greatly at variance from the involved underlying principle.

	Inspected.	Positive.	Per 100 positive.
Vaccinated 1–2 month babies	9,768	7,461	76.38
Vaccinated 2–3 month babies	3,614	2,468	68.28
Vaccinated 3–6 month babies	2,335	1,621	69.42
Vaccinated 6–12 month babies	328	242	73.78

Wherefrom it is plain that the alleged "natural immunity" of the first month of life has been turned into the highest susceptibility as compared with the three (3) other ages of the survey.

Furthermore, there is another argument toward proving that the earlier in the baby's life the vaccination is performed the better the chances for a successful result. The last partial table from the general one shows the following:

In every 100 "positive vaccinations" performed in the 4 distinct ages as above given, there were—

Successful after primary vaccination	73
Successful after second vaccination	17
Successful after third vaccination	6
Successful after fourth or further vaccination	4
Total	100

As regards the manner in which the yearly "general vaccination," as customarily performed in the city of Manila, has been carried out during 1920, following is a general table in the figures of which both vaccinations in adults and of children (even those "under 1-year age, of the preceding table) are all merged in the term "General Vaccination."

General vaccinations in the city of Manila during 1920.

Health districts.	Vaccinations.	Inspections.	Positive.	Negative.
Health District No. 1, Intramuros	51,396	11,882	9,391	2,491
Health District No. 2, Meisic	89,627	17,615	9,408	8,207
Health District No. 4, Sampaloc	52,670	20,710	13,095	7,615
Health District No. 5, Tondo	30,720	3,503	2,383	1,120
Health District No. 6, Paco	33,538	29,297	10,055	19,242
Total	257,951	83,007	44,332	38,675
Percentage		32.17	53.40	

MEASLES.

In 1912, on the occasion of the *I Asamblea Regional de Médicos y Farmacéuticos de Filipinas,* and in one of the morning meetings held in the Auditorium of the Letran's College, Dr. Victor G. Heiser, then Director of Health, after reading his paper, was placed before a question as to "why measles being such a mild or non-important (no mortality observed) infection, was made subject to obligatory isolation of cases in San Lazaro Hospital?" Dr. Heiser's reply was that "he was convinced that continuous importation of measles virus from outside into the Philippines is the leading factor in the maintenance or recurrence of measles local outbreaks; that the imported strain could well assume an increased degree of virulence and hence convert the so far harmless infection into one of well marked fatality, as is the case in cold countries, and that he thought he was fully justified in keeping the infection and its potential danger well out of any possibility of propagation and spread."

This quotation is made in view of the fact that measles is beginning to show a comparatively increased fatality from 1915 to 1920. The distribution by months is this:

Cases and deaths from measles reported during 1920 in the city of Manila.

	Cases.	Deaths.
January	15	0
February	36	1
March	73	0
April	75	0
May	46	1
June	42	2
July	30	2
August	14	2
September	10	1
October	21	0
November	21	2
December	4	1
Total	387	12
Fatality per 100		3.10

The distribution by districts, races and institutions is as follows:

Cases of measles reported in the city of Manila during 1920.

Health districts.	Total.	Measles cases.			
		Filipinos.	Americans and others.	From schools.	From private houses.
No. 1, Intramuros	95	79	16	18	77
No. 2, Meisic	83	72	11	5	78
No. 4, Sampaloc	70	63	7	15	55
No. 5, Tondo	57	57	0	4	53
No. 6, Paco	82	77	5	3	79
Total	387	348	39	45	342

If these figures are compared with those of the past six (6) years, the result would be this:

Year.	Cases.	Deaths.	Fatality per 100.
1915	96	4	4.16
1916	310	4	1.29
1917	237	2	0.84
1918	544	16	0.55
1919	151	3	1.98
1920	387	12	3.00

Under ordinary circumstances, the only reasonable explanation would perhaps be the "Heiser theory" (or the foreign overvirulent strain), but the presence of influenza in this city makes the problem more complex and doubtful. The fact of the relationship or association between influenza and diseases affecting naturally or as a complication, the air passages (naso-pharingeal vestible principally) gives countenance to the belief that measles indirectly increases its virulence and the resulting fatality in so far as in some way associated with influenza. The small number of deaths in 1918 and 1919 (the critical influenzal years) as compared with 12 corresponding to 1920 is easily explainable by bearing in mind the fact that during typical epidemic times the weight of prominence usually falls on the side of the prevailing disease, all other complicated or associated conditions being given a secondary almost negligible importance.

At any rate, and for one reason or another, it appears to be highly advisable to keep measles cases in strict isolation although, owing to the short length of its infectiveness, isolation in non-complicated cases may become a superfluous measure 24 hours from the disappearance of fever.

RABIES (HYDROPHOBIA).

Rabies, during 1920, failed to show important variations in incidence from the general situation described in past years, except in that a human case occurred in Paco District out of any possible control or help to the patient, as the case was not reported to the Health Service until a few moments before death occurred. A very close investigation showed that the case was entirely handled by two street patrolmen who in reply to a protest filed by the Health Service against them, alleged that a report had come to them about the existence of a *mad* or suspicious dog which they promptly proceeded to shoot and kill. In commenting their failure to refer the case to the Health Station or the Bureau of Science for the proper disposal and treatment of any bitten person, they insistently claimed that no bitten person was mentioned in the report. When the symptoms of hydrophobia began to develop the case, a woman residing at Calle Dart, was hurriedly removed to San Lazaro Hospital although unfortunately too late as it could be expected.

The incidence and fatality shown by the dreadful disease during 1920 were as follows:

Rabies in the city of Manila during 1920.

Health districts.	Number of suspected dogs examined.		Number of persons bitten by suspected dogs.	
	Number found negative.	Number found positive.	Total.	Contracted the disease.
District No. 1, Intramuros	31	[a]6	27	0
District No. 2, Meisic	23	4	26	0
District No. 4, Sampaloc	15	[b]5	19	0
District No. 5, Tondo	28	[c]5	33	0
District No. 6, Paco	19	[d]1	20	1
Total	116	21	125	1
Percentage	84.67	15.33	....	0.80

[a] 3 doubtful.
[b] 5 suspicious.
[c] 3 doubtful.
[d] 1 doubtful.

A comparison of the course followed by the infection during the past three (3) years would give this summary:

Rabies (hydrophobia).	1918	1919	1920
Dogs examined for	112	122	137
Positive	17	13	21
Per 100 positives	15.17	9.62	15.33
Persons bitten	99	116	125
Contracted the diseases	0	0	1

Due to these two (2) facts, viz.: (*a*) the increasing percentage of positive dogs and (*b*) the increasing number of bitten persons, as disclosed by the comparison, it became necessary to issue a new "proclamation" and "circular" (see copies below) as approved by the Secretary of Public Instruction, "concerning the prevention and control of rabies in the city of Manila," just about the date of expiration of the old "proclamation" and "circular."

PHILIPPINE HEALTH SERVICE.

MANILA, *October 25, 1920.*

Whereas, during the period from January 1 to September, 1920, the following cases of rabies in dogs and in persons occurred in the city of Manila:

Cases in persons (bitten by rabid or suspicious dogs).—Calle Sagat, Paco; calle Salsipuedes, Ermita; calle Trabajo, Sampaloc; calle Indiana, Malate; calle Velasquez, Tondo; Barrio Bacood, and calles Teresa and Constancia, Sampaloc;

Cases in dogs.—Calles Anak n̄g Bayan and Pennsylvania, Paco; calle Platerías, Santa Cruz; calle Jaboneros, Binondo; calle Salsipuedes, Ermita; calles Tayuman and Velasquez, Tondo; calle Solana, Intramuros; calle Indiana, Malate;

Whereas in the city of Manila there does now and did recently exist the disease called rabies, and as said infection is disseminated in the same locality;

Now therefore, the Director of Health, in the exercise of the powers upon him conferred by section 941 of the Administrative Code of 1917, does hereby declare and publish that rabies constitutes a grave menace to the public health in and throughout the city of Manila;

And the Director of Health further does hereby notify and advise all owners of, and all persons having control or possession of dogs and other animals liable to contract or convey said disease, within the city of Manila, effectually to muzzle or otherwise restrain said dogs and other animals liable to contract or convey said disease from date of publication of this notice up to the date of its revocation.

The phrase "effectual restraint" as above used, shall be understood to mean "muzzling, keeping in a kennel or other special inclosure, or keeping in leash."

Additional regulations are also promulgated by the Director of Health in regard to the control of the disease which shall have force of law.

Any owner of, or person having control or possession of, any dog or other animal liable to contract or convey said disease, in the city of Manila, who shall fail to muzzle or restrain the same as above required, is liable to punishment as prescribed by section 2697 of the Administrative Code with imprisonment of not more than six months or by a fine of not to exceed two hundred pesos, or both in the discretion of the court, without prejudice to civil liability for any damage that may be done to the person or property of another by reason of rabies or hydrophobia having been contracted from such animal.

The owner of an animal is also liable for such lesser damages as may be inflicted by such animal, under the provisions of section 1905 of the Civil Code.

V. JESUS,
Acting Director of Health.

Approved:
ALEJANDRO ALBERT,
Acting Secretary of Public Instruction.

MANILA, *November 12, 1920.*

PHILIPPINE HEALTH SERVICE.

MANILA, *October 25, 1920.*

CIRCULAR
S-86.

To all medical officers in charge of health stations; officers of the police department, city of Manila, and others concerned:

Pursuant to the notice published by the Director of Health with the approval of the Honorable, the Secretary of Public Instruction, (copy attached) concerning the prevention and control of rabies in the city of Manila and corresponding regulations therefor, the following instructions are given for the information and guidance of all concerned:

1. *Police Department and Philippine Health Service to enforce these regulations.*—The police force of the city of Manila will have the entire control of enforcing the provisions of such notice. This notwithstanding, the officers and employees of the Philippine Health Service are directed to assist and coöperate with the Manila police force in any possible way as regards information and request for prompt executive action found advisable, especially in all cases in which human beings are actually or supposedly affected, viz., persons bitten by rabid or suspected dogs or any other susceptible animal.

2. *Animals susceptible to, and able to transmit rabies.*—Dog's bites are usually the source of infection. Although infrequently seen, cases are on record (not so far in the Philippines) of rabies contracted and transmitted by hogs, cattle, horses, cats, and others.

3. *Suspicious human cases defined.*—In handling cases of this nature, any person bitten by a dog will be considered a suspicious case of human rabid infection until full evidence to the contrary is satisfactorily shown, or until a series of not less than 25 antirabic injections (Pasteur's prophylactic treatment) as required by the Bureau of Science has been completed.

4. *Procedure in case of living suspicious dogs.*—Whenever a person is reported to have been bitten by a dog, or in case a dog shows suspicious signs or symptoms of rabies, the first step to be taken is to locate the

dog and, if caught alive, to hold it in observation in the Small Animal Isolation Depot of the Bureau of Agriculture at San Lazaro.

For living suspicious dogs, an observation of not less than fourteen (14) days will be sufficient to give a report of "negative for rabies" provided that during such period the dog remains alive and that no symptoms of rabies have developed.

A tag containing data for identification of the dog will be securely attached around the neck. The required data are as follows:

Health District No........................Date..............................
Name of dog if any...
Sex .... Color .... Breed ....
Residence ....
Where found................................ Whether or not one
or more persons have been bitten ....
Number and date of license...
Name and address of owner ....

Moreover, the printed form used for miscellaneous examination (copy attached) with the data contained in the identification tag will be sent in triplicate with the dog to be examined and after the examination is completed, two copies will promptly be returned to the Philippine Health Service with the findings and signature of the pathologist. In addition to this, telephone message shall be sent at once in case of positive results.

5. *Killed Dogs. Procedure and report of examination.*—When on account of vicious habits or for other reasons, a suspected dog cannot be caught alive and it becomes necessary to kill it, instructions should be given to policemen dealing with the case to avoid shooting the dog in any part of the body (head or back of animal) where the central nervous system may be injured. The dead dog shall promptly be taken to the nearest health station wherefrom it will be sent to the Quarantine Station, Pandacan, for post-mortem examination with the identification tag and requisition for examination as per paragraph 4.

6. *Dog or other susceptible animals bitten.*—Dogs and other susceptible animals reported to have been bitten by a rabid or suspicious dog, will be subject to the same quarantine for such observation as is required for suspicious dogs.

7. *Reporting of cases by general public to Health or Police Stations.*—Dog owners, physicians, hospital superintendents, or any other person knowing or having notice of a dog (whether suspicious or not) having bitten any person or susceptible animal shall notify the case to the nearest Health Station or any representative thereof, or the nearest Police Station or its representative, giving, as far as possible, the name and address of the dog's owner, whether unlicensed, unmuzzled or otherwise, whether rabid or suspicious, alive or killed, the name and age of person bitten, his or her residence, the part of the body bitten and the date of bite. Persons, that have been bitten by a dog or any other rabid or suspected rabid animal shall immediately be directed to present himself to the nearest health station for advice and local treatment. As a general rule, all animal bites should receive surgical attention. Wounds caused by animals clinically rabid should be cauterized at once with fuming nitric acid or pure phenol.

8. *Chapters 3, 4, and 45 of the Revised Ordinances valid.*—All and every section of Chapters 3, 4, and 45 of the Revised Ordinances of the city of

Manila, related to licensing, muzzling or other means of restriction, impounding, or other regulations for the safe control of dogs, in so far as not inconsistent with the provisions of this Circular, shall continue to be strictly enforced.

9. *Prophylactic inoculations to be instituted at once.*—In addition to a thorough investigation as to persons and animals bitten by a supposedly rabid dog together with the collection of all interesting statistical data, the persons bitten must be properly disposed of immediately after bite has taken place. For the safety of persons concerned the following measures should be taken:

(*a*) Immediately after a person has been bitten by a dog or any animal which is rabid or suspected rabid, every effort should promptly be made to have the person reported to the Bureau of Science for the proper and necessary Pasteur treatment in order to protect him or herself against the possibility of contracting rabies.

(*b*) The Pasteur treatment is invariably given free in the Bureau of Science, and will consist in not less than 25 consecutive injections at a rate of one (1) per day.

(*c*) The treatment shall be instituted at once. No need of waiting for the result of the laboratory examination nor for the result of observation.

10. *Quarantine or disinfection unnecessary.*—As rabies is generally only transmitted by direct inoculation thru the dog's bite, no process of isolation, quarantine or disinfection will be instituted for human cases.

11. *Derogatory clause.*—Circular O-34 of this office, dated March 31, 1916, is hereby repealed and superseded by the present one.

V. JESUS,
Acting Director of Health.

Concurred in:

R. C. McGREGOR,
Acting Director, Bureau of Science.

ADRIANO HERNANDEZ,
Director of Agriculture.

EDWIN C. BOPP,
Chief of Police.

APPENDIX TO EPIDEMIOLOGY.

The following are activities closely related to the preventive measures usually displayed against the epidemic or semi-epidemic diseases:

Samples of drinking water examined during the year 1920.

Health districts.	Samples examined.	Bacterial count—		
		10,000 and over.	100,000 and over.	1,000,000 and over.
No. 1, Intramuros	204	101	90	13
No. 2, Meisic	437	321	112	4
No. 4, Sampaloc	656	396	260	0
No. 5, Tondo	1,083	564	450	69
No. 6, Paco	695	413	251	31
Total	3,075	1,795	1,163	117

Samples of drinking water examined during the year 1920.

Health districts.	Positive for—					Samples unfit for drinking.	Per centage unfit for drinking.
	Pre-sumptive test.	Bacillus Coli.	Amœba.	Flagellates.	Cilliates.		
No. 1, Intramuros	87	24	0	0	0	36	17.64
No. 2, Meisic	110	36	0	0	0	36	8.23
No. 4, Sampaloc	204	79	0	0	0	79	12.04
No. 5, Tondo	360	141	0	0	0	209	19.29
No. 6, Paco	258	121	0	0	0	152	21.87
Total	1,019	401	0	0	0	512	16.65

FINES IMPOSED.[a]

District No. 1, Intramuros	₱0.00
District No. 2, Meisic	181.50
District No. 4, Sampaloc	135.00
District No. 5, Tondo	20.50
District No. 6, Paco	111.00
Total	448.00

[a] 3 licenses revoked.

Report of disinfections performed during the year 1920.

Causes for disinfections.	Disinfections.
Cholera (contacts and carriers)	35,047
Dysentery (contacts and carriers)	42,681
Typhoid (contacts and carriers	42,756
Diphtheria (contacts and carriers)	1,692
Leprosy	80
Pulmonary tuberculosis	213
Smallpox, varioloid, varicella and measles	265
Mumps	4
Influenza	5
Insanitary condition	3,226
Exhumations	293
Total	126,262

Report of the mosquito work, 1920.

Number of houses inspected during the year	161,558
Number of houses where breeding places were found	10,873
Number of breeding places found in houses	11,608
Number of vessels ordered emptied or removed	11,159
Number of drains ordered cleaned	7,386
Lineal feet of drains ordered dug	17,330
Number of breeding places oiled on private premises	117,479
Number of breeding places oiled on public properties	86,470
Number of receptacles overturned	10,381
Square feet of grass ordered cut	645
Number of drums of oil used	269
Number of sanitary orders issued	2,483
Number of insanitary conditions reported to Health Stations	170
Number of complaints attended	701
Number of fines: ₱3.00 each	4
Number of fines: ₱5.00 each	16
Number of fines: ₱5.50 each	7

Report of the mosquito work, 1920—Continued.

Number of fines: ₱10.00 each	7
Number of fines: ₱10.50 each	4
Number of fines: ₱11.00 each	6
Number of fines: ₱16.50 each	2
Number of fines: ₱20.00 each	2
Number of fines: ₱20.50 each	3
Number of fines: ₱21.00 each	2
Number of fines: ₱25.00	1
Total amount of fines	₱510

Fly inspectors' report, 1920.

Number of stables inspected during the year	13,508
Number of stables ordered cleaned	4,799
Number of stables cleaned	10,117
Market inspections made	137

Report of anti-plague operations in Manila, 1920.

Number of wagon loads of refuse removed	0
Number of spring traps set	347,925
Number of rats caught by spring traps	67,603
Number of wire traps set	732
Number of rats caught by wire traps	0
Number and kind of baits (coconut)	348,657
Number of poison portions placed	389,484
Number of rats found poisoned	4,850
Number of rats killed by clubs and other weapons	18,073
Number of rats found dead from other causes	4,697
Total number of rats caught during the year and sent to the Bureau of Science for examination	95,223
Number of rats reported as infected by Bureau of Science	0
Human cases sent to San Lazaro under suspicion of plague	0
Human cases found dead from plague in districts	0
Human suspected cases reported bacteriologically positive by Bureau of Science	0
Number of complaints received	663
Number of complaints attended	663

Report of sanitary orders pertaining to plague work, 1920.

SANITARY ORDERS RAT-PROOFING.

Sanitary orders remaining from December 31, 1919	11
Sanitary orders issued	0
Sanitary order completed	1
Sanitary orders pending action by City Fiscal	4
Sanitary orders awaiting action	6

SANITARY ORDERS CLEANING.

Sanitary minor orders remaining from December 31, 1919	0
Sanitary minor orders issued	1,759
Sanitary minor orders completed	1,757
Sanitary minor orders awaiting action	2

MORTALITY IN THE CITY OF MANILA.

With a view to furnishing a stable basis (or average annual death-rate) drawn from the statistical figures obtained on births and deaths during a period of fifteen (15) years, the following general table is given:

Revised annual birth, death and marriage rates for the city of Manila (residents only).[a]

Years.	Births.	Birth rate.	Deaths.	Death rate.	Marriages.	Marriage rate.
1906	7,783	33.35	9,182	39.34	....	....
1907	7,899	33.28	7,287	30.70	....	....
1908	8,732	36.17	10,646	44.10	....	....
1909	8,776	35.75	7,936	32.34	....	....
1910	9,694	38.86	8,029	32.19	....	....
1911	9,330	36.81	8,227	32.46	2,027	16.00
1912	9,142	35.51	7,819	30.37	2,249	17.46
1913	8,695	33.25	5.904	22.58	2,315	17.70
1914	9,599	36.15	6,587	24.81	2,336	17.60
1915	8,850	32.83	6,820	25.30	2,176	16.14
1916	9,082	33.20	7,165	26.19	2,366	17.30
1917	8,883	32.00	6,682	24.07	2,285	16.46
1918	9,083	32.26	12,369	43.92	2,615	18.56
1919	10,029	35.11	7,814	27.36	3,053	21.38
1920	12,614	43.54	7,667	26.47	3,171	21.90

[a] Computed on population estimated by arithmetical method.

Doubtless from the year 1918, during which influenza in severely epidemic form, cholera, and a serious smallpox outbreak were present to such an extent as to raise the (general) mortality in the city of Manila to not less than 12,369 deaths with a death-rate of 43.92 per 1,000 population, we have had a net and actual gain in 1919 with a lowered mortality of 7,814 deaths (death-rate 27.36) and with a still lower figure in 1920, viz.: 7,667 deaths with such a low death-rate as 26.47. This again, as admitted in the Annual Report for 1919, is not keeping pace with the lowest figures of last decade, viz.: 5,904 deaths in 1913; 6,587 in 1914; and 6,820 in 1915.

If it is further desired to discuss what the real significance may be of the figure on mortality for 1920 (7,667 deaths with a death rate of 26.47 per 1,000 population), it would be found that the "average annual death-rate" for a period of fifteen years (1906 and 1920), and making no deduction for epidemic years (1908 and 1918) is approximately "30.18" (or 28.13 discarding the epidemic years 1908 and 1918) well above, at any rate, the 26.47 death-rate for 1920.

As regards the particular diseases wherefrom the reduced mortality of 1920 as compared with 1919 has been traceable, the following ones have been noted to be particularly concerned:

GROUP I. *General Diseases.*—Tuberculosis of the lungs.
Dysentery.
II. *Nervous System.*—Convulsions of infants.
V. *Digestive System.*—Diarrhœa and enteritis (under and over 2 years).

NATALITY AND INFANT DEATH RATE.

The figure, 12,614, of registered births in the city of Manila, in 1920, is the highest one ever attained during a period of fifteen (15) years as shown in the above table. This figure, which gives a birth-rate of 43.54, represents such a material increase in the population that it could not but affect the general mortality in so far as diseases peculiar to the infant life are concerned.

Again, as in 1919, an enthusiastic acknowledgment of the valuable in all respect work done by our Public Health Nurses is to be filed on their credit. It is to the emphasis laid on the importance of a thorough and reliable registration of births, and their untiring devotion to their duty that such a gratifying success could be made principally attainable and was in fact attained.

So great has been the success obtained and so highly creditable was the work done that it could but give rise to certain indiscreet and misleading publications hardly to be passed without the final test of correct figures and a judicious interpretation thereof, if it is desired to permanently do away with the old-fashioned unscientific "guess-work." Just in this way, the general public has been led to believe that the crude number of infant deaths during 1920, had greatly actually been reduced. However, much to the regret of the Service, it is to be stated that such is not nor has been the case.

As a matter of fact, the crude infant death figures for the past two (2) consecutive years are these:

1919	2,256
1920	2,687

The above informers will perhaps be very much surprised when they become aware from the following table, of the principal diseases by which the death figure for 1920 has exceeded that for 1919:

Causes of death among infants.	1919	1920
Congenital debility	509	646
Umbilical tetanus	43	69
Infantile beriberi	354	555
Acute bronchitis	309	435
Broncho-pneumonia	79	142
Diarrhœa and enteritis	207	251
Simple meningitis	90	133

Now, these ill-informed people will be still much more surprised to know that the above increased figures of mortality among infants are *in no way inconsistent with a lowered infant* *death-rate.* Even the least trained nurse of the Service is fully conversant with the simple mechanisms of the "infant death-rate." She knows perfectly well that in the reckoning of "infant death-rate," the basis for comparison of "crude death-figures" is not taken from the infant population (admittedly not so accurate as desired) but from the number of registered births during the same period to which "crude death-figures" correspond. It is also a well-known fact that whenever the number of registered births is greatly increased (12,614 during 1920) it is quite to be expected to affect more or less the "general mortality" (for the particularly handicapped condition in which the first year of life is naturally placed) but not the "infant mortality" due to the increased number of births upon which, as a basis, the "infant death-rate" is computed.

Thus, and for the purpose of comparing the 1920 infant death-rate with rates in past years, the following table is given:

Infant death-rate per 1,000 births in the city of Manila, by years.

Year.	
1903	[a] 1,022.99
1904	801.86
1905	516.56
1906	430.22
1907	398.30
1908	556.92
1909	432.66
1910	439.23
1911	415.70
1912	388.73
1913	322.46
1914	345.34
1915	396.72
1916	336.82
1917	275.47
1918	397.56
1919	224.95
1920	213.02

In connection with this infant death-rate proposition, a quite fresh example of misinformation is offered by the case of Dr. Alfred F. Hess, of New York, who as a valuable contribution to "Newer aspects of some nutritional disorders," read last January 15 before the Harvey Society a very interesting paper in which this bitter criticism has been included:

> A similar example exists in connection with the prevention of beriberi. As is well-known, this disease is the main factor in the exceedingly high infant mortality in the Philippines, leading to a death-rate in the city of Manila of 430 out of every thousand infants under 1 year of age. The

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[a] Birth registration very incomplete.

preventive of beriberi is the water-soluble vitamin, which is furnished in high concentration in brewers' yeast, a by-product of the brewing industry. Yet this high mortality is allowed to continue unabated in spite of the fact that the country is under a stable, civilized government.

From an attentive reading of the above-quoted paragraph one is inclined to believe that Dr. Hess' information about the "infant death-rate" in Manila, P. I., is as old as could be furnished to him for the year 1906, as shown in the above table, viz.: 15 years ago. There was in fact, according to such table, an infant death-rate of 430.22 per 1,000 registered births (not for *every thousand infants under 1 year of age,* as erroneously held by Dr. Hess) during 1906. What the information furnished to Dr. Hess failed to include is that during those fifteen (15) years, from 1906 to 1920, a gradual decrease of the infant death-rate was clearly discernible along the course of years until 1920 in which as low (comparatively) death-rate as 213.02, less than one-half the death-rate for 1906, has been recorded.

The question of prophylaxis of infantile beriberi has also been mentioned by Dr. Hess as one that had been altogether neglected by the Government agencies.

To correct this wrong impression on his part, it seems well to state that as far back as 1916 there was an attempt made to utilize the "water-soluble vitamin" contained in the brewers' yeast not only as *preventive* but also as a *curative* of actual cases of infantile beriberi. Unfortunately, however, local difficulties met with in the production in suitable form of such "water-soluble vitamin" hardly jeopardized the attempt so as to render it entirely impractical for the time being at least.

Just, on the other hand, the "tiki-tiki extract," a suitable preparation made up from the "rice polishing" (a by-products of the rice-milling) has proven through a large number of experiments and also clinically, not only a reliable specific means for the treatment of actual cases of "infantile beriberi" but also a valuable prophylactic of same.

The particular conditions under which the "tiki-tiki extract" has attained the highest success are these:

(*a*) Only the direct administration of tiki-tiki either as curative or prophylactic to children is productive of good results.—It means that the treatment of *beriberic mothers* (the only source of infantile beriberi) by tiki-tiki extract has proved unsuccessful either for themselves or for their breast-fed children.

(*b*) "Weaning" of breast-fed children from beriberic mothers is not required provided tiki-tiki treatment is properly employed.

(*c*) A radical revision has been carried out of the usual doses of tiki-tiki extract to children so as to change such doses from a *few drops* in a day to *2 or 3 teaspoonfuls* in 24 hours.

For a better comprehension of the instructions given to our public-health nurses on a strenuous campaign against "infantile beriberi," following is a set of instructions distributed among them, which besides was illustrated by oral explanation and discussion as delivered by a trained instructor.

HINTS ON INFANTILE BERIBERI, A PREVENTABLE AND CURABLE DISEASE.

What infantile beriberi is.

It is a common disease in the Philippines.

It is attended by great fatality (high infant mortality is its immediate consequence).

It always comes from beriberic mothers (breast-fed babies).

It commonly occurs within the first four (4) months of baby's life.

It runs its course:

(*a*) Most often (about 98 per 100 of cases), in 7 to 8 weeks—the so-called "aphonic cases."

(*b*) More rapid course is also possible (about 2 per 100 of cases)—the form called "pernicious beriberi."

Only "*cardiac* form" of beriberi occurs in infants. Clinical picture quite different from beriberi in adults. Organic lesion, however, (vago-neuritis) common to infants and adults.

SYMPTOMS AND SIGNS.

Vomiting (characteristic).
Constipation.
Paleness.
Crying and moaning (characteristic).
Aphony (or altered voice).
Oedema.
Oliguria (diminished urine).
No fever.

DIAGNOSIS (IMPORTANT DATA FOR).

History of the nursing mother:
  If previously or actually sick with beriberi.
  Previous beriberic children.
  Previous children that died within their first three months of life (very suspicious).

MANAGEMENT.

Prophylactic (based principally on mother's previous history):
  In the mother: Treatment of beriberi.
  In the child: Administration of tiki-tiki extract.
  Hygienic care and proper diet to both mother and child.

DOSIS OF TIKI-TIKI EXTRACT. (PROPHYLACTIC OR CURATIVE.)

Three teaspoonfuls of tiqui-tiqui extract every day until full four months of the baby's age have been reached.

Should any after-effects (usually diarrhœa) follow the administration of tiki-tiki, refer the case to the Service physician for advice.

CURATIVE.

Actual cases of beriberi (nursing mothers or babies) should at once be referred to the family or Service physician for advice and treatment. Under the physician's instructions the Public Health Nurse may continue to attend the patients.

Hospital accommodation to be preferred, if available.

As regards the success attained by the public-health nurses in this respect for the year 1920, the following two (2) paragraphs of the Annual Report of the Chief, Public Health Nursing, are quoted to show the extension of the work done:

TIKI-TIKI TREATMENT.

The distribution of tiki-tiki and the giving of instructions in connection with its use, form one of the most important activities of the Public Health Nursing Division. The treatment is administered at once to those babies whose mothers have shown symptoms of the disease during the period of their pregnancy or any history of beriberi either in themselves or in previous children. That the treatment has been productive of the highest results is shown conclusively by the following facts and figures:

Out of 491 cases of babies without symptoms of beriberi but whose mothers were affected with the disease, 485 or 98.77 per cent developed no symptoms of beriberi. In the cases of babies showing symptoms of beriberi, 415 were reported as cured and 138 as improving out of a total of 553 cases.

Yet, if the foregoing data are given credence, we would have been so fortunate as to show that through the liberal use of a vitamin, our country may aproach the type of a *stable, civilized government.*

PUBLIC HEALTH NURSING.

Mrs. CARMEN R. LEOGARDO, *Chief Nurse.*

MATERNITY AND INFANT WELFARE ACTIVITIES.

The work has been carried out along the same line as last year, but with greater impetus.

No doubt has ever existed in the mind of any investigator that the majority of the causes of infant mortality are wholly preventable, and that they may be prevented chiefly through the sanitary education of the masses. An idea of the great educational work performed by the public health nurses may be obtained from a glance at the following detailed statement of their duties:

ACTIVITIES BEING TAKEN BY THE PUBLIC HEALTH NURSES, PHILIPPINE HEALTH SERVICE.

I. *Duties in the Clinic.*

1. To treat minor medical and surgical cases of pregnants, mothers and babies from 7.30 to 8.30 a. m. during work days, after which the

one nurse thus assigned in each clinic makes her daily house-to-house visits.

2. To give lectures and make practical demonstrations on Sundays between the hours of 8 and 10 a. m. to mothers concerning the health and welfare of their babies, and the best way possible of preparing artificial feeding with the ordinary home facilities.

In addition to the above, babies are weighed to ascertain the progress made, and treatment is given to those pregnants, mothers, and babies who cannot come to the clinic or station during work days.

II. *Duties Outside.*

1. To give instructions to mothers, and prospective mothers as to proper care of pregnancy and of babies.
2. To register the babies in case they are not yet registered.
3. To vaccinate babies from the age of one month up to one year, and also those less than one month at the request of the parents.
4. To treat minor medical and surgical cases of pregnants, mothers, and babies in their homes during their (nurses') visits.
5. To refer medical and surgical cases beyond their facilities to hospital and dispensaries and to lend help for the purpose of securing proper treatment for such cases.
6. To impress to pregnants and mothers the desirability of breast feeding whenever advisable. If not advisable on account of the physical condition of the mother, to demonstrate the best way possible of preparing artificial feeding with the ordinary home facilities.
7. To give lectures on hygiene of individuals and sanitation of the surroundings.
8. To refer dangerous communicable diseases to the proper health authorities.
9. To furnish sterile umbilical dressing prepared by them to pregnants who, on account of their family duties, are unable to deliver in the hospital.
10. To bring and supply tiki-tiki extract to mothers in their homes for their babies and give instructions in connection with its use whenever there is a previous history of beriberi in the previous pregnancies, or in case any of their child died of beriberi, or when the babies show any symptoms of beriberi before their fourth month of life.
11 To supply plain-made flannel garments to babies suffering from severe cold who may be liable to contract bronchitis or pneumonia and whose parents are very poor and needy and unable to supply them.
12. To search continually for pregnants, mothers and babies who may be in need of advice, besides those that are referred to the nurses in the regular manner.
13. Mothers and pregnants are invited to come to Health Stations or baby centers in each district on Sundays between the hours of 8 and 10 a. m. to attend the lectures and demonstrations given by the Public Health Nurse during such hours concerning the health and welfare of their babies.

III. *Duties in the Provinces.*

Every month one nurse is assigned for one-week duty in the civilian community at Camp Stotsenburg. There she makes house-to-house visits to families of the soldiers there quartered and give the necessary instructions and treatments to pregnants, mothers, and babies.

PARTICIPATION OF THE DIVISION IN THE CARNIVAL.

All the nurses in the Division were assigned in rotation to the Carnival Exhibit of the Service. A large number of bulletins and placards dealing on prenatal and postnatal care were given out by the nurses to an eager and enthusiastic public. Practical demonstrations were also given on artificial feeding and bath-giving for infants.

TIKI-TIKI TREATMENT.

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This will serve to emphasize the need of continuing with the present practice of distributing tiki-tiki freely to all those who may be in need thereof, especially among the poor whose mode of living renders them more liable to contract the disease.

STATISTICS.

In view of the fact that the 1919 statistics cover from May 1st only, comparative statements will be made in connection with the statistics for 1920 for a similar period of time, namely, *seven* months.

From May 1 to December 31, 1920, 77,453 calls were made against 21,963 for the same period in 1919, or an increase of 55,490 calls. Six thousand nine hundred fifty-three vaccinations were performed in 1920 against 5,058 vaccinations in 1919, or an increase of 1,895. From August to December, 1920, 2,542 babies were registered against 1,229 birth registrations for a similar period during 1919, or an increase of 1,313. Out of the total number of 77,435 calls made in 1920, 4,371 represent visits made by nurses to homes of former patients who were found to have moved to unknown places or addresses.

The statistics for the year may be found in detail at the end of this report.

RECOMMENDATIONS.

1. It is recommended that two nurses who are also midwives be assigned to night duty one on each side of the Pasig River in order to attend such delivery cases among the poor as may be in need of help. The details for this extra assignment may be easily arranged. Such a policy of attraction is very desirable if we are to gain the confidence of the masses and if we are ever to be successful in securing their coöperation.

2. It is recommended that for Public Health Nursing purposes the area comprised by each Health Station be divided into zones, and that a nurse be assigned to each zone where she should be required to reside and whose assignment therein should be made permanent. The undersigned is convinced that the highest results will be attained by this arrangement, as the nurses will in this way become familiar with the places, with the people and with the health and social conditions prevailing in each particular. Experience has shown that frequent changes in the assignment of personnel are not conducive to the efficiency of the service. Familiarity with the places visited and intimate knowledge of the people dealt with are just as essential as technical or scientific knowledge for the efficient performance of the duties of the Public Health nurse. This plan would also put a nurse in the best position to render assistance to the people of her zone in the order of their need.

3. It is recommended that the Supervisor in each district be provided with a larger salary than the regular district nurses over whom she has charge. This is logical in view of the greater duties and responsibilities of the Supervisor and in order to give the position such a distinction as would command the respect of the subordinates toward the incumbent, thereby maintaining better discipline in the personnel. There have been cases where the Supervisors received even lower salaries than their subordinates.

ACKNOWLEDGMENT.

In closing, the office wishes to express appreciation and satisfaction for the spirit of coöperation shown by the nursing personnel, without which the success attained could not have been possible.

Statistics for the Subdivision of Public Health Nursing for the year ended December 31, 1920.

STATION No. 1, INTRAMUROS.

Months.	Calls.					Referred to clinic.	Number of houses visited.	Treatments.		Vaccinations.	Births registered.	Transferred.	Total visits.
	Babies.		Pregnants.	New babies found.				Clinic.	Homes.				
	Male.	Female.		Male.	Female.								
January	288	355	104	88	32	12	873	76	3	96	28	24	867
February	379	408	83	22	20	28	256	89	7	89	21	36	912
March	540	583	141	43	42	42	991	115	17	157	21	69	1,349
April	460	411	78	25	23	10	903	61	13	43	29	27	997
May	462	437	90	40	32	15	942	4	8	58	20	53	1,061
June	565	513	103	31	30	4	1,044	1	5	79	31	45	1,242
July	502	452	107	32	24	7	994	1	1	39	31	34	1,117
August	743	611	185	49	46	28	1,301	9	11	79	30	41	1,634
September	606	487	185	25	27	10	968	7	32	47	36	47	1,330
October	834	679	267	56	31	34	1,324	6	22	72	42	54	1,867
November	942	840	312	37	39	43	1,488	8	50	66	38	48	2,170
December	478	487	181	24	28	8	929	2	10	57	14	27	1,198
Totals	6,799	6,263	1,836	472	374	241	12,013	379	179	882	341	505	15,744

STATION No. 2, MEISIC.

Months.	Calls.					Referred to clinic.	Number of houses visited.	Treatments.		Vaccinations.	Births registered.	Transferred.	Total visits.
	Babies.		Pregnants.	New babies found.				Clinic.	Homes.				
	Male.	Female.		Male.	Female.								
January	468	596	96	55	63	32	969	129	138	291	51	78	1,278
February	448	489	332	109	100	176	2,061	137	125	395	85	114	1,478
March	1,167	1,148	473	148	139	217	2,624	153	109	832	79	73	3,075
April	912	807	416	134	113	126	2,017	99	102	102	88	56	2,382
May	879	800	342	141	99	106	1,817	26	75	217	95	59	2,261
June	1,135	1,024	416	137	137	173	2,198	13	113	305	110	122	2,849
July	1,142	1,112	442	92	117	162	2,350	44	111	265	103	138	2,905
August	821	767	287	101	104	119	2,368	70	77	256	138	93	2,080
September	1,078	1,016	359	122	120	172	2,414	47	118	183	142	143	2,695
October	1,079	1,046	369	117	117	172	2,401	39	45	309	113	104	2,728
November	1,140	1,154	379	132	131	181	2,586	15	91	301	133	135	2,936
December	787	966	282	109	86	150	2,191	3	97	205	112	118	2,230
Totals	11,056	10,925	4,193	1,396	1,326	1,786	25,996	775	1,202	3,661	1,249	1,233	28,897

Statistics for the Subdivision of Public Health Nursing for the year ended December 31, 1920—Continued.

STATION No. 4, SAMPALOC.

Months.	Calls.					Referred to clinic.	Number of houses visited.	Treatments.		Vaccinations.	Births registered.	Transferred.	Total visits.
	Babies.		Pregnants.	New babies found.				Clinic.	Homes.				
	Male.	Female.		Male.	Female.								
January	524	520	112	43	30	14	1,106	6	26	157	49	45	1,229
February	597	630	85	54	41	14	958	5	15	234	36	78	1,407
March	1,124	1,170	176	79	91	67	2,158	16	52	536	58	129	2,640
April	731	750	115	37	39	81	1,434	21	42	116	43	46	1,672
May	611	740	160	55	67	83	1,213	4	56	153	75	21	1,633
June	729	797	212	64	44	66	1,521	8	54	117	79	52	1,846
July	719	789	229	49	50	80	1,611	10	46	116	68	91	1,836
August	678	705	196	42	54	67	1,468	2	37	138	62	98	1,675
September	774	842	197	58	46	72	1,410	18	51	127	79	80	1,917
October	675	680	141	48	53	72	1,172	2	36	97	91	64	1,597
November	787	842	175	53	51	95	1,486	7	58	128	63	70	1,908
December	572	680	111	40	38	29	1,137	5	30	84	61	27	1,441
Totals	8,521	9,145	1,909	622	604	740	16,674	104	503	2,003	764	801	20,801

STATION No. 5, TONDO.

Months.	Calls.					Referred to clinic.	Number of houses visited.	Treatments.		Vaccinations.	Births registered.	Transferred.	Total visits.
	Babies.		Pregnants.	New babies found.									
	Male.	Female.		Male.	Female.			Clinic.	Homes.				
January	562	528	45	46	43	24	1,230	13	43	102	46	39	1,224
February	422	487	41	54	35	41	915	13	50	60	46	39	1,039
March	753	705	82	140	155	65	1,668	23	98	458	113	91	1,835
April	692	649	75	190	176	54	1,699	52	73	233	103	75	1,782
May	806	738	100	193	185	63	1,777	9	58	381	160	130	2,022
June	801	791	106	149	185	74	1,783	13	62	348	130	121	2,032
July	747	774	88	114	122	54	1,545	17	73	307	116	116	1,845
August	750	717	115	211	193	50	1,765	7	79	358	252	166	1,986
September	763	773	95	131	109	80	1,633	16	114	349	147	155	1,871
October	871	846	140	150	146	62	1,931	12	132	403	200	129	2,153
November	994	1,004	149	140	145	73	2,150	13	115	316	154	151	2,432
December	715	774	128	91	105	79	1,626	21	99	190	126	62	1,813
Totals	8,876	8,786	1,164	1,609	1,599	719	19,722	209	996	3,505	1,593	1,274	22,034

Statistics for the Subdivision of Public Health Nursing for the year ended December 31, 1920—Continued.

STATION No. 6, PACO.

Months.	Calls.					Referred to clinic.	Number of houses visited.	Treatments.		Vaccinations.	Births registered.	Transferred.	Total visits.
	Babies.		Pregnants.	New babies found.									
	Male.	Female.		Male.	Female.			Clinic.	Homes.				
January	163	139	127	12	18	18	640	66	56	232	88	26	459
February	231	264	68	58	50	20	569	33	11	69	91	42	671
March	623	709	214	116	134	84	1,774	117	51	183	107	123	1,796
April	561	681	194	61	75	87	1,472	93	26	57	76	58	1,572
May	551	585	201	68	90	88	1,351	13	28	57	76	45	1,495
June	652	657	266	65	68	63	1,604	17	29	58	99	38	1,708
July	736	653	219	70	67	44	1,620	13	22	101	88	32	1,745
August	818	789	308	87	86	61	1,959	7	30	125	131	63	2,088
September	846	807	275	83	73	51	994	8	29	122	125	30	2,084
October	899	881	294	83	59	69	2,036	9	46	145	101	31	2,216
November	934	991	269	45	55	86	2,232	8	63	130	84	41	2,294
December	623	610	200	42	20	93	1,490	18	75	65	68	29	1,495
Totals	7,637	7,766	2,625	790	795	764	17,741	402	466	1,344	1,134	558	19,623

Statistics for the Subdivision of Public Health Nursing (1920).

SUMMARY BY MONTHS.

Months.	Calls.					Referred to clinic.	Number of houses visited.	Treatments.		Vaccinations.	Births registered.	Transferred.	Total visits.
	Babies.		Pregnants.	New babies found.				Clinic.	Homes.				
	Male.	Female.		Male.	Female.								
January	2,005	2,138	484	244	186	100	4,818	290	266	878	262	212	5,057
February	2,077	2,278	609	297	246	279	5,029	277	208	847	279	309	5,507
March	4,207	4,315	1,086	526	561	475	9,215	424	327	2,166	378	485	10,695
April	3,356	3,298	878	447	426	358	7,525	336	256	551	339	262	8,405
May	3,309	3,300	893	497	473	355	7,100	56	225	866	426	308	8,472
June	3,882	3,782	1,103	446	464	380	8,150	52	263	907	449	378	9,677
July	3,846	3,780	1,085	357	380	347	8,120	85	253	828	406	411	9,448
August	3,810	3,589	1,091	490	483	325	8,861	95	234	956	613	461	9,463
September	4,067	3,925	1,111	419	375	385	7,419	96	344	828	529	455	9,897
October	4,358	4,132	1,211	454	406	409	8,864	68	281	1,026	547	382	10,561
November	4,797	4,831	1,284	407	421	478	9,942	51	377	941	472	445	11,740
December	3,175	3,517	902	306	277	359	7,373	49	311	601	381	263	8,177
Totals	42,889	42,885	11,737	4,890	4,698	4,250	92,416	1,879	3,345	11,395	5,081	4,371	107,099

SUMMARY BY DISTRICTS.

Districts.	Calls.					Referred to clinic.	Number of houses visited.	Treatments.		Vaccinations.	Births registered.	Transferred.	Total visits.
	Babies.		Pregnants.	New babies found.				Clinic.	Homes.				
	Male.	Female.		Male.	Female.								
Intramuros	6,799	6,263	1,836	472	374	241	12,283	379	179	882	341	505	15,744
Meisic	11,056	10,925	4,193	1,397	1,326	1,786	25,996	775	1,201	3,661	1,249	1,233	28,897
Sampaloc	8,521	9,145	1,909	622	604	740	16,674	104	503	2,003	764	801	20,801
Tondo	8,876	8,786	1,164	1,609	1,599	719	19,722	219	996	3,505	1,593	1,274	22,034
Paco	7,637	7,766	2,635	790	795	764	17,741	402	466	1,344	1,134	558	19,623
Totals	42,889	42,885	11,737	4,890	4,698	4,250	92,416	1,879	3,345	11,395	5,081	4,371	107,099

MEDICAL INSPECTION OF SCHOOLS, CITY OF MANILA, 1920.

Senior Medical Inspector FELIPE ARENAS,
In charge, North of Pasig River.

Medical Inspector JOSE M. RAYMUNDO,
In charge, South of Pasig River.

The work has been carried on under the same plan as in previous years. The number of nurses employed by the city in this Service is seven.

As a preliminary step, all students wishing to enter the school were inspected and vaccinated first at the School Clinics before the opening of the school year.

The clinical and the inspection work are shown in the attached Tables A and B, which compare very favorably with those for the year 1919. In 1919, the defects found on the first inspection made amounted to 82 per cent, while in our first inspection in 1920, only 75 per cent was found. This fact is in general a real sign of a certain amount of improvements in the health conditions of our school children. Successive inspections showed a notable decrease of defects among the pupils examined in the schools.

In adtion to the work of inspection and treatment most of the students have been vaccinated at least twice since the beginning of the school year.

The work of the School Dentist is shown in Table D by months. With regard to dangerous communicable diseases, Table C shows as in previous years, that they do not seriously affect our school children, their occurrence being particularly confined among the younger ones.

Regarding the visits made by our nurses there were 266 pupils' homes visited during the year and in almost every one something worthy of attention has been found and properly attended.

It has been observed that during the year the teachers have coöperated with the inspection force by promptly sending to the clinics all children needing treatment. In every case the diagnosis has been confirmed by the Medical Inspector of Schools. Skin diseases have been the most urgent problem.

TABLE A.—*Clinical Work.*

Months.	Clinics.	Number of operations.	Number of treatments.	Number cured.
1920.				
January	Intramuros, Station No. 1	0	961	900
Do	MeisicStation No. 2	43	3,410	94
Do	Sampaloc, Station No. 4	0	1,099	19
Do	Tondo, Station No. 5	14	2,184	16
Do	Paco, Station No. 6	0	0	0
February	Intramuros, Station No. 1	0	628	623
Do	Meisic, Station No. 2	19	1,567	42
Do	Sampaloc, Station No. 4	0	1,896	23
Do	Tondo, Station No. 5	10	1,725	32
Do	Paco, Station No. 6	0	0	0
March	Intramuros, Station No. 1	0	654	650
Do	Meisic, Station No. 2	0	762	20
Do	Sampaloc, Station No. 4	0	1,112	18
Do	Tondo, Station No. 5	6	1,183	13
Do	Paco, Station No. 6	0	0	0
April	Intramuros, Station No. 1	0	231	220
Do	Meisic, Station No. 2	1	693	25
Do	Sampaloc, Station No. 4	7	372	16
Do	Tondo, Station No. 5	4	805	62
Do	Paco, Station No. 6	0	0	0
May	Intramuros, Station No. 1	0	169	163
Do	Meisic, Station No. 2	14	1,054	21
Do	Sampaloc, Station No. 4	1	1,295	21
Do	Tondo, Station No. 5	11	1,525	29
Do	Paco, Station No. 6	0	0	0
June	Intramuros, Station No. 1	0	1,355	1,350
Do	Meisic, Station No. 2	52	1,428	42
Do	Sampaloc, Station No. 4	7	1,138	12
Do	Sampaloc, Station No. 4	7	1,138	12
Do	Tondo, Station No.5	7	2,362	12
Do	Paco, Station No. 6	0	0	0
July	Intramuros, Station No. 1	0	1,348	1,340
Do	Meisic, Station No.2	20	1,472	35
Do	Sampaloc, Station No. 4	46	1,238	10
Do	Tondo, Station No. 5	11	2,626	25
Do	Paco, Station No. 6	0	0	0
August	Intramuros, Station No. 1	0	1,087	1,080
Do	Meisic, Station No. 2	91	3,777	56
Do	Sampaloc, Station No. 4	0	1,000	10
Do	Tondo, Station No. 5	9	1,440	30
Do	Paco, Station No. 6	0	430	422
Do	Trade School	0	446	442
September	Intramuros, Station No. 1	0	887	883
Do	Meisic, Station No. 2	106	5,728	102
Do	Sampaloc, Station No. 4	0	791	6
Do	Tondo, Station No. 5	14	1,443	25
Do	Paco, Station No. 6	0	924	921
Do	Trade School	0	1,277	1,270
October	Intramuros, Station No. 1	0	905	902
Do	Meisic, Station No. 2	6	3,531	83
Do	Sampaloc, Station No. 4	6	1,069	14
Do	Tondo, Station No. 5	14	1,792	12
Do	Paco, Station No. 6	0	555	552
Do	Trade School	0	0	0
November	Intramuros, Station No. 1	0	628	623
Do	Meisic, Station No. 2	2	2,061	60
Do	Sampaloc, Station No. 4	11	1,089	15
Do	Tondo, Station No. 5	24	2,912	19
Do	Paco, Station No. 6	0	560	538
Do	Trade School	0	735	730
December	Intramuros, Station No. 1	0	470	457
Do	Meisic, Station No. 2	0	1,280	34
Do	Sampaloc, Station No. 4	14	924	13
Do	Tondo, Station No. 5	9	2,049	15
Do	Paco, Station No. 6	0	626	624
Do	Trade School	0	287	283
Grand total		579	76,995	16,054

TABLE B.—*Months of inspection—Number of pupils examined and defects found.*

Schools.	Month, first examination.	Total of pupils examined.	Total defects found.	Month, second examination.	Total of pupils examined.
Quiapo Primary School	Jan.	408	405	July	527
Guipit Primary School	do	1,131	790	Mar	1,112
Rotonda Primary School	do	326	250	do	0
San Sebastian Primary School	do	614	430	June	678
Sampaloc Intermediate School	do	681	456	Aug	767
Meisic Primary School	do	2,205	1,532	Sept	2,287
Lincoln Primary School	Feb.	760	654	Dec.	855
Santa Mesa Primary School	do	471	358	Nov.	601
Mabini Intermediate School	do	1,155	745	Oct.	1,584
Philippine School of Commerce	do	198	69	do	260
Asuncion Primary School	June	566	520	Sept	534
Gagalangin Primary School	do	916	1,123	do	0
Central School	do	574	155	Sept	491
Philippine Normal School	do	1,046	422	Oct.	1,014
Intramuros Intermediate School	do	252	109	do	261
Ermita Intermediate School	do	886	410	Sept	868
San Nicolas Primary School	July	1,092	731	do	1,068
San Nicolas Intermediate School	do	721	484	do	726
Trade School	do	610	428	Nov	526
Soler Primary School	Aug	855	721	Sept	814
Santa Cruz Primary School	do	763	537	Oct.	781
Zurbaran Primary School	do	499	405	do	470
Santa Clara Primary School	do	1,062	882	do	1,030
Tondo Primary School	do	1,879	2,059	Dec.	1,948
Tondo Intermediate School	do	1,849	2,372	Nov.	1,913
San Andres Primary School	do	643	376	do	656
Herran Primary School	do	641	319	Oct.	579
Intramuros Primary School	do	607	307	Nov	624
Paco Intermediate School	do	1,029	529	Oct.	889
Manila High School	do	1,816	545	do	1,647
Deaf and Blind School	do	83	83	do	0
Rizal Yangco Primary School	Sept	1,137	1,372	Dec.	1,055
Jefferson Primary School	do	1,159	608	Nov.	1,134
Santa Ana Primary School	do	642	332	do	579
Zamora Primary School	do	705	424	Dec.	678
Malate Primary School	do	402	220	Nov	339
Union Seminary School	do	69	45	do	0
Bonifacio Lico Primary School	Oct.	1,132	1,343	do	0
Magdalena Primary School	Nov.	998	1,155	do	0
Grand total		32,582	24,705		29,355

TABLE B.—*Months of inspection—Number of pupils examined and defects found.*—Continued.

Schools.	Total defects found.	Month, third examination.	Total of pupils examined.	Total defects found.
Quiapo Primary School	367			
Guipit Primary School	853	Nov	1,017	740
Rotonda Primary School	0		0	0
San Sebastian Primary School	413		0	0
Sampaloc Intermediate School	419		0	0
Meisic Primary School	1,347	Nov	2,228	1,051
Lincoln Primary School	570		0	0
Santa Mesa Primary School	377		0	00
Mabini Intermediate School	919		0	0
Philippine School of Commerce	100		0	0
Asuncion Primary School	427	Dec	533	401
Gagalangin Primary School	0		0	0
Central School	115	do	506	115
Philippine Normal School	362		0	0
Intramuros Intermediate School	97	do	226	51
Ermita Intermediate School	413	do	815	288
San Nicolas Primary School	503	do	928	454
San Nicolas Intermediate School	428		0	0
Trade School	314		0	1
Soler Primary School	489		0	0
Santa Cruz Primary School	510		0	0
Zurbaran Primary School	330		0	0
Santa Clara Primary School	642		0	0
Tondo Primary School	1,820		0	0
Tondo Intermediate School	2,010		0	0
San Andres Primary School	359		0	0
Herran Primary School	361		0	0
Intramuros Primary School	284		0	0
Paco Intermediate School	457		0	0
Manila High School	517		0	0
Deaf and Blind School	0		0	0
Rizal Yangco Primary School	1,250		0	0
Jefferson Primary School	658		0	0
Santa Ana Primary School	382		0	0
Zamora Primary School	407		0	0
Malate Primary School	181		0	0
Union Seminary School	0		0	0
Bonifacio Lico Primary School	0		0	0
Magdalena Primary School	0		0	0
Total	18,681		6,253	3,100

TABLE C.—*Medical inspection of schools.*

Schools.	Typhoid fever.	Dysentery.	Cholera.	Cholera vibrio carrier.	Measles.	Varicella.	Varioloid.	Smallpox.	Tetanus.	Mumps.	Diphtheria.	Diphtheria carrier.	Leprosy.	Orquitis gonorrheic.	Trachoma.	Tuberculosis.
Manila High School	1	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0
Zurbaran Primary School	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Benavides Primary School	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Nicolas Intermediate School	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Magdalena Primary School	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Beata College	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Isabel College	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
National Academy	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Nicolas Primary School	1	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0
Bonifacio Primary School	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Santa Cruz Primary School	9	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
San Juan de Letran	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara Primary School	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tondo Primary School	7	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Tondo Intermediate School	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
Sampaloc Intermediate School	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Anglo Chinese School	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0
Philippine University	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Universal Institute	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Guipit Primary School	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Rizal Primary and Yangco School	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Gagalangin Primary School	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Manila Institute	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Meisic Primary School	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Ateneo de Manila	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Far Eastern College	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Centro Escolar	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Quiapo Primary School	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mabini Intermediate School	3	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Total	41	4	0	0	1	16	0	0	1	0	0	0	0	1	1	1

TABLE D.—*Annual consolidation report of schools dental clinic work in the city of Manila for the year 1920.*

Date.	New.	Males.	Females.	Former.	Treatment.	Extract.	Amalgam fill.	Cement fill.	Gutta-percha fill.	Cleaning.	O. K.
January	59	56	3	7	114	41	1	4	7	9	7
February	113	113	0	32	305	151	6	27	21	33	12
March	90	90	0	13	204	105	5	8	13	28	9
April	76	72	4	49	246	76	23	58	64	1	0
May	65	55	10	22	115	62	12	30	30	0	0
June	94	58	36	7	172	102	4	32	35	11	5
July	126	78	48	6	269	212	2	14	19	9	9
August	111	109	2	18	224	218	8	34	14	7	7
September	136	77	59	11	297	171	2	32	24	7	6
October	136	77	59	80	357	140	17	52	76	19	19
November	132	50	82	58	327	129	13	30	35	18	13
December	99	60	39	24	213	128	4	44	34	4	3
Total	1,237	895	342	327	2,843	1,535	97	365	372	146	90

General sanitation work.

NUMERICAL STATEMENT OF THE ACTIVITIES OF FIVE (5) HEALTH STATIONS IN THE CITY OF MANILA DURING 1920.

Inspections of houses by sanitary inspectors, assistant sanitary inspectors and sanitary policemen	369,506
Reinspections of houses by sanitary inspectors, assistant sanitary inspectors and sanitary policemen	89,640
Houses ordered cleaned	71,454
Houses cleaned	71,454
Houses ordered whitewashed and painted	758
Houses whitewashed and painted	722
Number of houses recommended, condemned and removed	1
Number of houses condemned and removed	0
Number of "garbage-can orders" issued (all complied with)	1,923
Number of recommendations for "sewer connection"	22
Yards ordered cleaned	19,920
Yards cleaned	18,940
Number of orders issued during the year	4,984
Number of orders complied with during the year	4,584
Number of orders awaiting action	400
Number of orders pending in court	0
Number of persons convicted for violation of prohibition orders	291
Average number of food tiendas in the districts	2,864
Number of samples of water, foods, etc., sent to laboratory	13,213
Number of reports for same	8,263
Average number of regular inspectors on duty	84
Average number of regular emergency inspectors on duty	13

Report of action taken on applications for licenses in the city of Manila during 1920.

Kind of licenses applied for—	Approved.	Disapproved.	Total acted upon.
Liquor:			
First-class bars	51	1	52
Second-class bars	18	1	19
First-class bars and restaurants	28	....	28
Second-class bars and restaurants	23	1	24
Groceries	117	5	122
Druggists	11	....	11
Wholesale	28	....	28
Theatres	2	....	2
Hotels	36	1	37
Restaurants	587	78	665
Lodging houses	24	1	25
Boarding houses	66	7	73
Native wines	2,528	330	2,858
Cooked foods, fruits, vegetables, soft drinks, and bakery products	2,991	355	3,346
First-class articles	2	....	2
Second-hand articles	103	7	110
Barber shops	529	27	556
Traveling barbers	17	5	22
Laundries	93	15	108
Public vehicles	360	23	383
Billiard and pool tables	59	5	64
Dyeing and cleaning establishments	126	25	151
Livery stables	99	24	123
Garages	58	8	66
Garages (additional automobiles)	1	1	2
Bicycles for hire	27	2	29
Blacksmiths shops	109	6	115
Manufactories	336	52	388
Grocery stores	367	32	399
Clubs	36	4	40
Theatres and cinematographs	25	2	27
Ice cream and iced mongo parlors	160	14	174
Bakeries	44	2	46
Massagists	27	2	29
Draying establishments	18	3	21
Merry-go-round	2	....	2
Distilleries	15	2	17
Horseshoeing establishments	19	....	19
Junk shops	24	10	34
Pawnbrokers	38	2	40
Tattoers	16	....	16
Vulcanizing plants	18	5	23
Forges	1	1	2
Dairies	4	....	4
Storage of sugar	14	....	14
Pop corn	6	....	6
Refrigerating rooms	1	....	1
Stockyards	8	2	10
Embalmers	9	....	9
Boarding stables	2	1	3
Shipyards	5	....	5
Aerated water	1	1	2
Electrical contractors	2	....	2
Foundries	18	1	19
Banca landing (Nagtahan)	2	....	2
Warehouses	8	....	8
Breweries	2	....	2
Tannery and sale of leathers	8	....	8
White "taju"	4	....	4
Repairing shop with forge	1	....	1
Undertakers	6	....	6
Race track	1	....	1
Storage	6	....	6
Weekly, liquor	1	....	1
Bowling alleys	1	1	2
Permits to sell fruits, vegetables, etc.	395	45	440
Permits to dry and sell fish	44	1	45
Permits to can and preserve food and fruits	5	....	5
Permits to operate slot machine	5	....	5
Permits to prepare food at home and serve to laborers	5	12	17
Total	9,803	1,123	10,926

DIVISION OF SANITATION IN THE PROVINCES

(Dr. EUGENIO HERNANDO, *Chief of Division.*)

ORGANIZATION.

Owing to the reorganization of the Province of Ambos Camarines into two separate provinces, Camarines Norte and Camarines Sur, and also due to the organization of the Province of Marinduque, which in the past year was a subprovince of the Province of Tayabas, and the organization of the Province of Masbate, formerly a subprovince of Sorsogon, a new redivision of the provinces embraced by this Division into health districts was made, as follows:

No.	Former health district.	No.	New health district.
1.	Batanes.	1.	Batanes.
2.	Mountain Province.	2.	Mountain Province.
3.	Ilocos Norte.	3.	Ilocos Norte.
4.	Ilocos Sur.	4.	Ilocos Sur.
5.	Abra.	5.	Abra.
6.	La Union.	6.	La Union.
7.	Cagayan.	7.	Cagayan.
8.	Isabela.	8.	Isabela.
9.	Nueva Vizcaya.	9.	Nueva Vizcaya.
10.	Pangasinan.	10.	Pangasinan.
11.	Zambales.	11.	Zambales.
12.	Nueva Ecija.	12.	Nueva Ecija.
13.	Tarlac.	13.	Tarlac.
14.	Pampanga.	14.	Pampanga.
15.	Bulacan.	15.	Bulacan.
16.	Bataan.	16.	Bataan.
17.	Rizal.	17.	Rizal.
18.	Cavite.	18.	Cavite.
19.	Laguna.	19.	Laguna.
20.	Batangas.	20.	Batangas.
21.	Tayabas.	21.	Tayabas.
22.	Mindoro.	22.	Marinduque.
23.	Ambos Camarines.	23.	Mindoro.
24.	Albay.	24.	Camarines Norte.
25.	Sorsogon.	25.	Camarines Sur.
26.	Romblon.	26.	Albay.
27.	Samar.	27.	Sorsogon.
28.	Leyte.	28.	Masbate.
29.	Capiz.	29.	Romblon.
30.	Iloilo.	30.	Samar.

No.	Former health district.	No.	New health district.
31.	Antique.	31.	Leyte.
32.	Cebu.	32.	Capiz.
33.	Oriental Negros.	33.	Iloilo.
34.	Occidental Negros.	34.	Antique.
35.	Bohol.	35.	Cebu.
36.	Palawan.	36.	Oriental Negros.
37.	Surigao.	37.	Occidental Negros.
38.	Agusan.	38.	Bohol.
39.	Bukidnon.	39.	Palawan.
40.	Misamis.	40.	Surigao.
41.	Davao.	41.	Agusan.
42.	Cotabato.	42.	Bukidnon.
43.	Lanao.	43.	Lanao.
44.	Zamboanga.	44.	Misamis.
45.	Sulu.	45.	Zaboanga.
		46.	Davao.
		47.	Cotabato.
		48.	Sulu.

Of the regular provinces pertaining to this Division, only the Province of Romblon still remains unorganized into sanitary divisions, but arrangements have been made with the provincial authorities to have it organized next year.

In the project submitted the province should be divided into three sanitary divisions, because the available fund would not be sufficient to support more. Said project had already been approved by the provincial board and municipalities at the close of this report.

Table A shows the organization of this Division at the close of the calendar year 1920, from which may be noted any increase or decrease observed either in the sanitary units or personnel as compared with those existing in the year 1919.

The municipalites comprised by a health district were regrouped with a view to a more equitable distribution of the sanitary personnel, thus insuring more efficient sanitary supervision and medical services in the municipalities.

The population of this Division is estimated at 8,946,531 at the close of the present year, so that there is but one physician to every 36,969 inhabitants; one nurse to every 94,174 (considering the midwives as nurses), and one sanitary inspector to every 9,064 (considering the welfare sanitary inspectors and dispensary attendants as sanitary inspectors). Comparing these figures with those of the past year, it appears that physicians, nurses, and sanitary inspectors, would have to attend to more inhabitants during the next year than those attended this year.

As may be noted in Table A the number of physician and nurse employees during the present year is practically the same as those employed in 1919, this being due to the fact that many vacancies still remain unfilled on account of the poor salary offered.

During fiestas, pilgrimages, and epidemics in the provinces, sanitary personnel from the Central Office is sent to aid the provincial sanitary personnel. Sometimes the provinces also appoint temporary personnel for emergencies.

The policy of this office is to see that the provinces are provided with not less than one sanitary inspector for every 3,000 inhabitants and to increase their salaries in order to have competent sanitary personnel in the provinces.

The work done by the sanitary inspectors has improved notably during the present year. Their duties have been more clearly defined. One sanitary inspector was assigned to each of the smaller municipalities and several to the more populated.

The main duty of the sanitary inspector is to inform the presidents of sanitary divisions of the occurrence of any case of communicable disease, accidents, and cases of an emergency nature. They must examine all cadavers of persons who die without medical attendance, investigate and obtain from the family of the deceased, the etiology and symptomatology of the disease and record it on a blank form for the purpose.

It is also one of the duties of the sanitary inspectors to inspect the premises and buildings, especially stores where foods are sold in order to verify the sanitary condition of said places.

Disinfection is also done by the sanitary inspectors under the supervision of the presidents of the sanitary divisions.

In those barrios where nobody is detailed as sanitary inspector the "teniente of barrio" is requested to give the office of the president of the sanitary division this information, and from this information, the president of sanitary division would be able to deduce the probable cause of death and consequently the application of proper sanitary measures. The president of sanitary division reports the case to the district health officer and the latter in turn reports it to the Central Office. This procedure facilitates any investigation that may be undertaken either by the district health officer or the Central Office in connection with an abnormal increase in death from any disease, and, when necessary, the adoption of the proper measures to avoid an outbreak of a communicable disease.

TABLE A.—*Sanitary organization.*

Province.	Organization.						Personnel.																	
	Number of sanitary divisions.		Number of municipal health districts.		Number of municipal boards of health.		Number of provincial doctors.		Number of municipal doctors.		Number of nurses.		Number of midwives.		Number of sanitary inspectors.		Number of welfare sanitary inspectors.		Number of clerks.		Number of dispensary attendants.		Number of other employees.	
	1919	1920	1919	1920	1919	1920	1919	1920	1919	1920	1919	1920	1919	1920	1919	1920	1919	1920	1919	1920	1919	1920	1919	1920
Abra	2	2	....	....	....	....	1	1	....	....	1	1	....	....	8	8	....	....	1	1	....	....	....	....
Albay	8	8	....	....	....	....	1	1	8	8	3	3	2	2	25	25	....	....	1	1	....	....	30	35
Antique	4	4	....	....	....	....	1	1	....	....	3	4	....	....	13	13	....	....	1	....	....	....	4	....
Bataan	3	3	....	....	3	3	1	1	2	2	1	....	....	....	8	8	....	....	1	1	....	....	....	....
Batanes	....	....	1	1	6	6	....	....	....	....	....	....	....	....	3	3	....	....	....	....	....	....	....	....
Batangas	7	9	....	....	....	....	1	....	10	10	5	3	....	....	29	32	....	....	2	2	4	2	1	1
Bohol	10	10	....	....	....	....	1	1	7	3	4	5	....	....	39	37	....	....	1	1	....	2	....	....
Bulacan	10	10	....	....	....	....	1	1	10	10	10	8	2	1	30	29	....	....	1	1	1	1	1	1
Cagayan	6	9	....	....	....	....	....	....	4	3	2	2	....	....	45	35	....	....	1	1	....	....	....	....
Camarines Norte	2	2	....	....	....	....	....	....	1	2	....	....	....	....	8	9	1	1	....	1	1	1	....	13
Camarines Sur	4	5	....	....	....	....	1	1	5	5	4	5	....	....	19	19	2	2	1	1	5	6	....	3
Capiz	6	7	....	....	....	....	1	1	5	5	1	1	....	....	28	32			....	....	....	....	....	3
Cavite	5	6	....	....	....	....	1	1	6	6	....	....	....	....	23	23	....	....	1	1	....	....	....	....
Cebu	16	16	....	....	....	....	2	1	6	9	4	6	....	....	77	71	....	....	3	3	....	....	....	....
Ilocos Norte	4	4	....	....	....	....	1	1	4	4	....	....	....	....	16	17	....	....	1	1	....	....	....	....
Ilocos Sur	5	5	....	....	....	....	1	1	5	5	2	2	....	....	20	20	....	....	1	1	....	....	....	....
Iloilo	14	14	....	....	....	....	2	2	11	11	2	4	2	2	37	41	....	....	2	2	....	....	....	26
Isabela	4	4	1	1	....	....	1	1	2	2	1	2	....	....	19	18	....	....	1	1	....	....	....	....
Laguna	8	8	....	....	....	....	1	1	8	8	1	1	....	....	29	30	....	....	1	1	....	....	....	2
La Union	4	4	....	....	....	....	1	1	4	4	1	....	....	....	16	16	....	....	1	1	....	....	....	10
Leyte	17	17	....	....	....	....	1	1	9	10	1	1	....	....	50	50	....	....	....	....	8	7	....	....
Marinduque	2	2	....	....	....	....	1	1	2	1	....	....	1	1	6	6	....	....	....	1	9	9	....	....
Mindoro	7	8	....	7	....	....	1	1	1	2	2	2	....	....	10	9	....	2	1	1	1	6	....	....
Mountain Province	....	....	....	....	....	....	8	7	7	6	....	....	....	....	45	45	....	....	3	3	6	6	23	23
Nueva Ecija	9	9	....	....	....	....	1	1	9	9	1	2	....	1	30	30	....	....	1	1	....	....	....	....
Nueva Vizcaya	....	....	....	....	....	....	2	2	1	2	3	3	1	1	10	11	....	....	1	1	1	1	3	4
Occidental Negros	11	12	....	....	....	....	1	1	6	9	12	6	....	....	26	26	....	....	1	1	....	....	....	....
Oriental Negros	7	7	....	....	....	....	1	1	6	4	2	3	....	....	22	22	....	....	2	3	....	....	10	1
Palawan	....	....	6	11	....	....	1	1	1	1	4	8	....	....	15	15	....	....	....	1	3	3	....	4
Pampanga	9	9	....	....	....	....	1	1	9	9	1	1	....	....	27	27	1	....	1	1	....	....	....	....

Pangasinan	14	14	.....	.....	.....	.....	2	2	14	11	2	2	2	1	48	48	.....	.....	2	2	1	1	2	5
Rizal	11	11	.....	.....	.....	.....	1	1	11	11	.....	.....	.....	.....	33	33	.....	.....	2	2	1	1	2	2
Romblon	.....	.....	.....	.....	8	9	1	1	.....	.....	2	1	.....	.....	8	8	.....	.....	1	1	.....	.....	.....	.....
Samar	12	13	.....	.....	.....	.....	1	1	4	6	2	2	.....	.....	37	39	.....	.....	2	2	.....	.....	4	.....
Sorsogon	9	9	.....	.....	.....	.....	1	1	3	4	.....	.....	.....	.....	21	19	.....	.....	1	1	.....	.....	.....	.....
Tarlac	5	5	.....	.....	.....	.....	1	1	5	5	1	5	.....	.....	16	16	.....	.....	2	2	.....	.....	.....	.....
Tayabas	12	11	.....	.....	.....	.....	2	2	10	11	1	1	1	1	34	33	.....	.....	2	1	.....	.....	.....	.....
Zambales	4	4	.....	.....	.....	.....	1	1	4	4	.....	1	.....	.....	13	13	.....	.....	1	1	.....	.....	.....	.....
Total	251	261	8	20	17	18	47	46	200	202	79	85	11	10	943	936	4	5	44	46	41	46	80	133

CREATION OF THE HEALTH DISTRICT OF INSPECTION.

As Act No. 2875 provides for five positions for district inspectors, in accordance with said provisions and with the authorization of the Secretary of Public Instruction, the territory comprised by this Division was divided into five health districts of inspection, as follows:

First. *Northern Luzon,* comprising the provinces of Batanes, Mountain Province, Ilocos Norte, Ilocos Sur, Abra, La Union, Cagayan, Isabela, Nueva Vizcaya, with headquarters at Vigan, Ilocos Sur.

Second. *Central Luzon,* comprising the provinces of Zambales, Pangasinan, Nueva Ecija, Tarlac, Pampanga, Bulacan, Bataan, Rizal, Cavite, Batangas, and Palawan, with headquarters at San Fernando, Pampanga.

Third. *Southern Luzon,* comprising the provinces of Laguna, Tayabas, Mindoro, Marinduque, Ambos Camarines, Albay, and Sorsogon, with headquarters at Lucena, Tayabas.

Fourth. *Eastern Visayas,* comprising the provinces of Samar, Leyte, Cebu, Oriental Negros, and Bohol, with headquarters at Cebu, Cebu.

Fifth. *Western Visayas,* comprising the provinces of Capiz, Iloilo, Antique, Occidental Negros, and Romblon, with headquarters at Iloilo, Iloilo.

DUTIES OF THE HEALTH INSPECTOR—MEMORANDUM ORDER OUTLINING SAME.

INSPECTIONS.

Frequency.—In the first district of inspection, the Province of Batanes shall be inspected not less than twice a year. The Mountain Province, every three months; the provinces of Cagayan, Isabela and Nueva Vizcaya, every two months; and the provinces of Ilocos Norte, Ilocos Sur, Abra and La Union, every month.

The provinces pertaining to the second health district of inspection shall be inspected not less than once each month, except the Province of Palawan which shall be inspected every three months.

The provinces of Laguna and Tayabas comprised within the third district of inspection shall be inspected every month, and the provinces of Mindoro, Camarines Norte, Camarines Sur, Albay and Sorsogon, every two months.

Of the provinces comprised within the fourth district of inspection, the provinces of Oriental Negros, Bohol, and the western protion of the Province of Leyte, shall be inspected every month. The western portion of the Province of Samar and the eastern portion of the Province of Leyte shall be inspected every two months, and the eastern portion of the Province of Samar, every three months.

The provinces comprised within the fifth district of inspection shall be inspected monthly.

MATTERS TO BE INSPECTED.

1. Offices of the district health officers.
2. Work performed by the district health officers.
3. Work performed by the presidents of sanitary divisions.
4. Work done by the district nurses and midwives.
5. Work done by the sanitary inspectors.
6. Work done by the subordinate personnel.
7. General inspection.

1. OFFICE OF THE DISTRICT HEALTH OFFICER.

(*a*) General appearance of his office.

(*b*) Records and files of all official correspondence kept by means of the card system and in accordance with the provisions of the Manual of the Bureau of Health.

(*c*) Organization, plantilla of the personnel; budgets and amounts contributed either by the province or municipalities to the health fund of the health district.

2. WORK PERFORMED BY THE DISTRICT HEALTH OFFICER.

(*a*) *Statistics.*—Exact and complete record of all statistical reports that the district health officer must keep.

(*b*) Complete collections of circulars, sanitary laws, ordinances, rules and regulations. The district inspector shall ask the district health officer some questions referring to the poinst treated in said circulars, laws, rules and regulations.

(*c*) Record of medicines, disinfectants, and equipment pertaining to the health district.

(*d*) Record of public dispensaries and inspection made by the district health officers.

(*e*) Record of the cemeteries.

(*f*) Record of lepers apprehended.

(*g*) Record of infractors of sanitary ordinances and results of trials.

(*h*) Record of permanent or provisional sanitary improvements.

(*i*) Record of vaccinations.

(*j*) Record of water supplies.

(*k*) Record of disposal of excreta.

(*l*) Record of school inspection.

(*m*) Other matters conducive to the greatest efficiency of the Service.

3. WORK PERFORMED BY THE PRESIDENTS OF SANITARY DIVISIONS.

(*a*) General appearance of his office.

(*b*) Statistics.

(*c*) Complete record of circulars issued by the district health officer. Record of the municipal ordinances pertaining to the municipalities embraced by his sanitary division as well as a record of the rules and regulations of the Service.

(*d*) Record of all corespondence sent and received.

(*e*) Record of medicines and disinfectants received and distributed and record of equipment.

(*f*) Record of public dispensaries and inspections made by them.

(*g*) Record of cemeteries with plan of same.

(*h*) Record of infractors of sanitary ordinances, sanitary orders issued or promulgated, and record of proposed sanitary municipal ordinances submitted to the municipal councils and action taken thereon.

(*i*) Record of the sanitary improvements in his sanitary division.

(*j*) Record of vaccinations performed, water supplies, and collection of wastes.

(*k*) Daily record of cases and deaths from communicable diseases. Record of emergency hospitals established. Record of specific vaccinations performed for the control of communicable diseases.

(*l*) Record of school inspection.

4. WORK DONE BY THE DISTRICT NURSES AND MIDWIVES.

(*a*) Verify that the main work done by the district nurses and midwives was for the reduction of infant mortality and never as assistants to the health officers in attending their offices, the public dispensaries, or clinics established within their territory.

(*b*) Verify that they make trips to the different sanitary divisions into which the province is divided and that on arrival at a barrio they assemble all the local midwives and mothers for the purpose of giving them instruction as to the care and nursing of children, care of pregnant women during the periods of gestation, parturition and puerperium.

(*c*) Verify that they make house visits in order to give such lectures and instruction to those who cannot attend their public lectures.

(*d*) Verify that they perform other services in connection with infant welfare.

5. WORK DONE BY THE SANITARY INSPECTORS.

(*a*) To make regular itineraries in normal times for the systematic inspection of barrios.

(*b*) Record of inspections made of markets, slaughterhouses, cockpits, carinderias, restaurants, hotels, lodging houses, etc., etc.

(*c*) Neatness of his office and conservation of medicines, equipment, and especially the pumps for disinfection which should be kept in good condition and always ready for use.

(*d*) Verify the degree of assimilation of their instructions, especially in making diagnosis for statistical purposes, death certificates, inspection of dead bodies, etc.

(*e*) Verify the degree of assimilation of their instructions in the preparation of all the reports, especially the weekly statistical report, the report on Municipal Form No. 43, the report of vaccinations, and the cards and reports referring to the Automatic Health Control.

(*f*) Verify the degree of assimilation of instructions in first aid to injuries received from accidents, as well as simple remedies, and the proper preparation of disinfectants.

(*g*) Complete collection of circulars pertaining to his municipality and record of cemeteries, water supplies, disposal of excreta, local sanitary ordinances, record and reports of vaccinations, communicable diseases, and others.

6. WORK DONE BY SUBORDINATE PERSONNEL.

(*a*) *Clerks of offices.*—Their familiarization with the files of the office, and promptness in locating records.

(*b*) Familiarization with matters transacted in thier respective office; preparation of appointments, correspondence, indorsements, etc.

(*c*) *Property clerk.*—Card file system of the properties pertaining to the health district.

(*d*) Hospital attendants, janitors, messengers, etc., etc. Cleanliness of the apartments, equipment, furniture, etc., etc. Familiarity with regulations pertaining to their office with reference to their duties.

7. GENERAL INSPECTION.

(*a*) Prescribe the necessary methods and means to eradicate any cause noxious to health.

(*b*) Make the inspection of the hotels, restaurants, carinderias, tiendas, and all the stores in which food or drinks are sold.

(*c*) Prescribe a procedure to prevent domestic animals from running loose in the streets, especially swine.

(*d*) Make inspection of public gatherings and amusement places, giving special attention to sanitary facilities.

(*e*) Prescribe the measures to safeguard the public health during fiestas, fairs, pilgrimages, etc.

(*f*) To submit propositions and prescribe the enforcement of the municipal sanitary ordinances.

(*g*) To keep a comparative record of the sanitary conditions of each province embraced by his district.

INVESTIGATIONS.

(*a*) The increase of mortality in any municipality of their health district of inspection, either total or among the under-one-year-group.

(*b*) Inspection of death certificates in the municipalities inspected not only for correction of diagnosis but to avoid concealment of cases of communicable diseases.

(*c*) Origin and spread of epidemics and measures taken for their control.

(*d*) Bacteriological diagnosis whenever it is possible.

(*e*) Establishment of provincial laboratories and to watch their operation.

(*f*) The use of serums and vaccines, either preventive or curative.

(*g*) Other investigations as directed.

PUBLIC WELFARE.

Public dispensaries.—Public dispensaries shall be established in the offices of the presidents of sanitary divisions, of the presidents of municipal health districts of the sanitary inspectors, and in those places where said persons may deem proper and convenient. The function and services of these dispensaries will be carried out in accordance with the following regulations:

1. In each public dispensary there must be a "record book," which shall contain the name, nationality, residence, age, civil status, occupation, economic and hygienic condition of the patients, diagnosis, treatment, and results, when these last requirements can be ascertained.

2. Consultations to indigent persons will be given only at the dispensaries, leaving to the judgment of the physician the appreciation of the degree of indigence.

3. Medicines will be gratuitously furnished by the dispensary to indigent persons, with which physicians attending the dispensaries will be provided.

4. The dispensary must be exclusively attended by the president of sanitary division and under no circumstances may they be substituted by sanitary inspectors or nurses.

5. The physician attending the dispensary must give the greatest possible publicity to it so that persons desiring medical attendance may be able to apply to the dispensaries.

6. In case the presidents of sanitary divisions attending the dispensaries receive notice to the effect that in the locality there are poor sick persons whose condition is such as not to allow their coming to the dispensary, it will be the duty of the said presidents of sanitary divisions to afford free treatment and remedies at the person's own residence.

7. Whenever a vehicle of the municipality may be used to attend the dispensary, such vehicle must be used in preference to any other kind of private transportation.

8. In order to be able to attend to all dispensaries a time-table should be prepared by the district health officer.

9. A report of all patients attending the dispensaries will be sent by the presidents of sanitary divisions to the district health officer, and the latter must send them to the Central Office before the tenth day of the next month following the month to which the report refers.

EQUIPMENT AND DISINFECTANTS.

(*a*) If the financial status of the health fund so permits it, the offices of the district health officers should be furnished with the necessary equipment for the establishment of an emergency hospital for 50 patients, in accordance with the specifications given in Circular Q–74 dated October 20, 1919.

(*b*) If the financial status of the health fund so permits it, every sanitary inspector should be furnished with a surgical pocket outfit; each district nurse or midwife in his health district with a nurse's pocket outfit, and president of sanitary divisions with the necessary surgical instruments for surgical intervention.

(*c*) Each municipality must have in stock medicines to attend the indigent patients.

(*d*) A disinfecting pump ready for use at all times shall be kept in every municipality and not less than ten in the office of the district health officer.

(*e*) In each municipality there must be not less than 20 liters of disinfectant and a stock of 500 liters in 3d and 4th class provinces; 1,000 liters in second-class provinces, and from 1,500 to 2,000 liters in first-class provinces.

SUMMARY OF THE MOST IMPORTANT REPORTS AND RECORDS WHICH MUST BE KEPT IN THE OFFICES OF THE DISTRICT HEALTH OFFICERS AND PRESIDENTS OF SANITARY DIVISIONS.

I. Sanitary condition of tiendas:
  - (*a*) Record-cards by municipalities.
  - (*b*) Reports to the district health officers.
    1. Number of tiendas in each municipality by barrios.
    2. Sanitary condition (excellent, good, fair, poor).
    3. Number of inspections made.

II. Water supplies record:
  - (*a*) Record-cards by municipalities.
  - (*b*) Reports to the district health officers.
    1. Kind of supply (well, spring, river, etc.).
    2. Ordinal number of supply.
    3. Location of supply.
    4. Number of persons using the supply.

III. Communicable diseases record:
  - (*a*) Record-cards by municipalities.
  - (*b*) Weekly report to the district health officer.
    1. Number of cases and deaths from communicable diseases.
    2. Report showing the ordinal number and location of water supplies used by persons reported suffering from or who died from cholera, typhoid fever, dysentery, diarrhœa, and enteritis.

IV. Demographic records:
  - (*a*) Health index by municipalities.
  - (*b*) Report of the health index to the district health officer.
  - (*c*) Weekly report of total mortality and weekly health index.

V. Family cards and record:
  - (*a*) Cards by municipalities.
  - (*b*) Report to the district health officer.

MONTHLY REPORTS.

1. Number of persons vaccinated against smallpox with positive results in each municipality.
2. Number of persons vaccinated against other diseases by municipalities.
3. Number of families and number of persons in each.
   - (*a*) Kind of system for disposal of excreta used by each family.
   - (*b*) Number of families using the "Antipolo system."
   - (*c*) Number of families having no system for disposal of excreta.
4. Population by municipalities.
5. Families by municipalities.
6. Number of houses by municipalities.
7. Percentage of persons in each family and house.
8. Number of houses of strong, mixed, and light materials.
9. Number of domestic animals.
10. Number of stables.
11. Number of mosquito breeding areas by barrios.
    - (*a*) Location.
    - (*b*) Those that affect the community in general.

VI. Demographic special reports:

(*a*) Total mortality and rate by municipalities and groups of age.
(*b*) Comparison of death rate by municipalities.
(*c*) Comparison of the total death rate with the death rate from the most common causes of death by municipalities.
(*d*) Study of causes of excessively high death rate.
(*e*) Study of the ill-defined causes of mortality.
(*f*) Special report of the district nurses' work.
(*g*) Other reports not here specified but stated in Circular Q–29, 1918.

NOTES.

1. Offices of the district inspectors shall be established in the same building in which the office of the district health officer is located whenever there is room for them; otherwise the district inspector may have his office in his residence.

2. A clerk, furniture and material for conducting their offices, shall be furnished by the Central Office.

3. District inspectors shall render a semi-monthly report of the services rendered by them and a narrative annual report of all work done during the year.

4. District health officers shall furnish the district inspectors of their respective health districts a copy of the weekly statistical reports to be submitted to the Central Office.

5. District inspectors shall study the weekly statistical reports received by them with due regard to instructions given in Circulars Q–84, R–21, and R–37 and any increase noted either in the total mortality or in the mortality under one year during a given week, should be referred immediately to the district health officer for explanation. If the explanation given by the district health officer does not clearly demonstrate that such increase in the mortality is not due to an epidemic, this fact should be duly investigated by the district inspectors, either on their regular trip of inspection or at the earliest possible date, to ascertain if the increase might be attributed to an outbreak of an epidemic.

Reports of the explanation given by the district health officer or of the investigation performed by the district inspectors should be forwarded without delay to the Central Office.

6. District health officers shall furnish to the district inspectors all the reports and informations that they may require for the better control of general sanitation and administration of their health districts.

7. For distinctive purposes, district inspectors when on duty will wear a gold badge on the left breast pocket with the following inscription:

"District Inspector, Philippine Health Service."

With reference to the improvement in the efficiency of the Service with the creation of this new activity, it may be stated that sufficient time has not yet elapsed since the creation of this activity to permit a definite conclusion, but the frequent inspections of the district inspectors have helped a great deal towards bettering the service. The district inspector serves as an instructor and as an adviser to the district health officers, presidents of sanitary divisions, and subordinate personnel and therefore it is hoped that this new activity will redound to the benefit of the Service.

METHODS OF SECURING PROMPT INFORMATION.

The telegraph, telephone, and the mails are the means available for securing prompt information from the municipalities.

The telephone is used for the transmission of the daily report of cases and deaths from communicable diseases and for any other matter requiring immediate action.

To the end that all the district health officers may have information as to the sanitary conditions of their neighboring districts, the following circular was issued:

PHILIPPINE HEALTH SERVICE.

MANILA, *September 16, 1920.*

CIRCULAR
S–63.

To all District Inspectors and District Health Officers:

Commencing with the current month, a weekly report as herewith attached will be furnished by the Central Office to all district inspectors and district health officers.

As the appreciation of the efficiency of the work rendered by a health officer is based upon the reduction of the mortality figures in his health district, a knowledge by a health officer of the health conditions in the other health districts will undoubtedly give him, not only an appropriate and opportune alarm and warning, but also a stimulus in the performance of his work, with the noble inspiration and desire that his health district should be the best among all others.

Therefore the notification report newly instituted will redound, not only to the general benefit of the Service, but also for the better compliance with the purpose stated in Circulars N–48, Q–84, R–21, R–37, R–45, S–26, and others.

V. JESUS,
Acting Director of Health.

In the Province of Cebu, a wireless telegraph plant was installed during the present year, which has greatly improved the communication facilities between Cebu and other islands and between the Central Office, Manila, and the office of the district health officer.

Thirteen provinces placed at the disposal of their respective district health officer an automobile. This means of transportation enables the Service to perform more easily any investigation, and facilitates the prompt application of the proper sanitary measures and the inspection and supervision of the work of the subordinates. Several of these automobiles are equipped as ambulances for the transportation of patients.

Weekly report of communicable diseases received from the various provinces during the week ending, Saturday at 8 a. m., March 26, 1921.

Province.	Week ending, 1921.	Diseases.															
		Cholera.		Diphtheria and croup.		Typhoid fever.		Malaria.	Tuberculosis.	Beriberi.	Whooping cough.	Smallpox.		Measles.	Influenza.	Dysentery.	
		C.	D.	C.	D.	C.	D.	D.	D.	D.	D.	C.	D.	D.	D.	C.	D.
Albay	Mar. 5							23	16	3				1	1	19	7
Antique	do							6	10		1			13	1	5	3
Bataan	do							4	4	6							
Batangas	do					1	1	42	15	15	2			1	2	6	6
Bulacan	Mar. 12			1	1	5	5	7	38	28						1	
Cagayan	Feb. 19							23	13	5						7	
Ilocos Norte	Mar. 5					1	1	22	9	5							
Do	Mar. 12							14	9	6							
Isabela	Feb. 19							16	4							1	1
Laguna	Mar. 5					1		20	13	12						2	1
Leyte	Jan. 8					2	2	33	27	14	1				3	11	11
Do	Jan. 15					2	2	37	38	11	4			1	2	12	10
Do	Jan. 22							24	27	16					5	4	2
Do	Jan. 29					1	1	31	32	22	2				1	7	7
Do	Feb. 12					1	1	42	27	18	3			2	1	8	7
Marinduque	Feb. 26							5	7	10						3	1
Do	Mar. 5							8	3	6						4	1
Mindoro	Jan. 8					2	2	13	5	4				1		6	1
Do	Jan. 15	4				2	2	14	6	3					2	18	4
Do	Jan. 22					1	1	10	1	3					1	8	2
Do	Jan. 29							5	6	4				1		1	
Nueva Vizcaya	Feb. 19							8	3	2							
Do	Mar. 5							4	2	1							
Do	Mar. 12			1	1			2	1								
Occidental Negros	Mar. 5					1	1	23	10	9	1			41		17	13
Oriental Negros	Jan. 29							23	6	9	3					1	1
Do	Feb. 19							17	6	14	5		1		2	1	1
Do	Feb. 26					1	1	17	11	8					2	3	3
Do	Mar. 5					1	1	19	9	9	4	13	1			2	2
Pampanga	Mar. 12					2	2	3	9	25	3			1		2	1
Pangasinan	Mar. 5					8	7	45	30	20					2	3	3
Tayabas	Feb. 12							27	9	14	2			2		8	8
Total		4		2	2	32	30	587	406	302	31	13	2	64	25	160	96

FINANCIAL STATEMENT.

Some increases have been obtained in the funds appropriated either by the provinces or municipalities as their contribution to the health funds of the provinces, as shown in Table B.

From a study of this table, it results that 23 provinces have increased their appropriations for the present year; 8 remain practically with the same contribution as in the past year, and 7 provinces show a decrease.

The increase in the health appropriations is rather due to the increase of the percentage set aside by the municipalities than to the provinces which in a great majority of cases contributed the same amount as in the past year. Insular aid has also been increased during the present year.

The revenues in 1920 amounted to ₱1,379,214 or ₱135,203.13 over the revenues of the previous year, and the total expenditures during the year amounted to ₱1,144,456.23 or ₱14,609.75 less than those of the past year.

The balance of this Division at the end of the year 1920 amounted to ₱248,330.40 as against ₱135,012.76 in the preceding year, and the deficits of various provinces amounted to ₱50,067.68 in 1919 as against ₱13,572.44 in the present year.

The reduction in the expenditures for salaries and traveling expenses, and the increase in the balances of some provinces and a reduction in the deficits of others, were due to the vacancies not filled during the year. The other expenses were practically the same as in the past year. Sixty-three per cent of the total revenues was expended for salaries and per diems; and 14 per cent for medicines, disinfectants and equipment.

The balance remaining at the end of the present year is mostly due to the vacancies in the personnel which were not filled, the low salaries for them not being attractive enough to be accepted, although it may be stated that the salary of the presidents of sanitary divisions and of the nurses has been increased 20 per cent.

Considering that the population of this Division is estimated for the year 1920 at 8,800,526, the rate per capita, excluding the balance carried over from the previous year, is ₱0.14 which is ₱0.02 more than in the past year.

TABLE B.—*Financial statement.*

Province.	Appropriations.				Total revenues.
	Balance from 1919.	Municipal allotments.	Provincial allotments.	Other receipts.	
Abra (—)	₱265.28	₱1,605.07	₱1,000.00	₱10.00	₱2,880.35
Albay (—)	4,483.33	24,856.13	24,856.13		54,195.59
Antique	1,294.77	7,393.66	4,000.00		12,688.43
Bataan (+)	540.82	3,097.27	3,097.27		6,735.36
Batanes (+)	1,283.83			[a] 3,760.00	5,043.83
Batangas (+)	3,515.92	43,213.34	13,000.00	101.00	59,830.26
Bohol (—)	11,478.48	17,431.59	17,431.59		46,341.66
Bulacan	3,655.76	24,773.61	20,000.00	4,307.15	52,736.52
Cagayan (+)	11,997.06	12,911.24	12,911.24	8.46	37,828.00
Camarines Norte (+)		2,500.67	2,500.67	2,489.71	7,491.05
Camarines Sur (+)	9,745.39	12,609.63	12,609.63		34,964.65
Capiz	4,527.00	16,644.71	5,000.00		26,171.71
Cavite (+)	3,681.44	20,454.02	6,000.00		30,135.46
Cebu (+)		58,567.88	30,000.00	200.00	88,767.88
Ilocos Norte (—)	1,551.26	13,119.47	4,788.00		19,458.73
Ilocos Sur	293.11	11,362.43	8,000.00	52.00	19,707.54
Iloilo (+)	539.46	42,444.45	18,000.00	39.31	61,023.22
Isabela (+)	7,422.78	10,183.22	10,183.22		27,789.22
Laguna	2,007.85	20,565.34	12,500.00	3,441.75	38,514.94
La Union (+)		9,474.97	9,474.97	2.53	18,952.47
Leyte (+)		52,667.61	13,600.00		66,267.61
Marinduque (+)		5,693.20	4,862.10		10,555.30
Mindoro (—)	4,142.52	6,031.09	6,031.09		16,204.70
Mountain Province (+)	1,844.49			[a] 110,544.00	112,388.48
Nueva Ecija (+)	16,844.01	18,088.71	18,088.71	2,476.60	55,498.03
Nueva Vizcaya (+)	1,847.05			21,268.00	23,115.05
Occidental Negros (+)	3,050.82	24,904.45	24,904.45		52,859.72
Oriental Negros (—)	2,464.23	16,583.07	7,900.00		26,947.30
Palawan (+)	6,695.63			[a] 25,550.00	32,245.63
Pampanga (+)	3.71	26,052.38	15,580.99	2,361.12	43,998.20
Pangasinan (—)	1,263.52	43,528.27	21,640.00	2,834.38	69,266.17
Rizal	3,286.40	20,159.21	20,159.21	981.47	44,586.29
Romblon			3,699.75		3,699.75
Samar (+)	10,410.58	25,343.41	6,000.00		41,753.99
Sorsogon (+)	269.56	14,882.77	14,277.13		29,429.46
Tarlac (+)	3,176.47	15,526.71	10,000.00	991.12	29,694.30
Tayabas	5.49	32,033.10	23,049.31	4,465.23	59,553.13
Zambales (+)	1,547.88	6,346.32	2,000.00		9,894.20
Total	125,135.90	661,049.00	407,145.46	185,883.83	1,379,214.19

[a] Insular aid.

TABLE B.—*Financial statement*—Continued.

Province.	Expenditures.						Total expenses.	Balance at the end of 1920.	Deficits at the end of 1920.
	Salaries of personnel.	Traveling expenses and per diems.	Medicines and disinfectants.	Medical and surgical equipment.	Other equipment.	Other expenses.			
Abra (—)	₱ 2,320.57	₱ 140.00	₱ 267.71	....	₱ 14.95	....	₱ 2,743.23	₱ 137.12	....
Albay (—)	36,009.72	3,670.17	[b]18,566.25	₱ 303.15	24.00	₱ 1,349.24	59,922.53	....	₱ 5,726.94
Antique	8,568.53	624.72	[b] 1,039.51	531.07	....	248.99	11,013.62	1,674.81	....
Bataan (+)	4,817.46	240.00	557.45	....	....	38.61	5,673.52	1,061.84	....
Batanes (+)	1,440.00	152.66	460.43	22.90	....	80.73	2,156.72	2,887.11	....
Batangas (+)	23,840.68	9,537.71	[b] 4,535.35	83.73	553.35	....	38,550.82	21,279.44	....
Bohol (—)	22,000.35	5,109.88	[b] 2,465.03	1,180.48	48.66	325.52	31,129.92	15,211,74	....
Bulacan	33,778.43	6,461.63	5,127.11	130.00	257.06	3,817.13	49,571.36	3,165.16	....
Cagayan (+)	18,799.70	4,692.76	[b] 2,328.21	....	306.66	376.24	26,503.57	11,324.43	....
Camarines Norte (+)	3,354.36	362.37	282.97	....	....	40.40	4,040.10	3,450.95	....
Camarines Sur (+)	17,420.28	3,388.88	2,678.29	....	202.00	632.71	24,322.16	10,642.49	....
Capiz	15,932.24	1,889.30	2,382.96	285.39	....	125.60	20,615.49	5,556.22	....
Cavite (+)	15,001.46	1,126.35	[b] 2,153.06	43.12	200.50	61.68	18,586.17	11,549.29	....
Cebu (+)	51,372.96	6,514.28	[b] 6,920.77	....	139.19	[e] 23,008.96	87,956.16	811.72	....
Ilocos Norte (—)	13,654.87	2,380.77	[b] 2,995.11	....	111.06	316.00	19,457.81	.92	....
Ilocos Sur	14,104.11	2,010.33	2,272.11	....	926.81	....	19,313.36	394.18	....
Iloilo (+)	29,354.15	8,105.75	[b] 9,193.27	....	10.20	558.82	47,222.19	13,801.03	....
Isabela (+)	11,229.19	5,803.74	[b] 4,028.88	707.28	200.33	557.31	22,526.73	5,262.49	....
Laguna	22,244.84	4,950.52	4,135.61	929.30	1,109.75	2,811.56	36,181.58	2,333.36	....
La Union (+)	9,421.37	2,711.89	[c] 1,516.02	....	....	[e] 497.53	14,146.81	4,805.66	....
Leyte (+)	35,643.08	6,801.15	[b] 3,778.05	....	6,466.78	[f] 1,424.05	74,113.11	....	7,845.50
Marinduque (+)	3,992.55	640.49	[b] 875.35	....	401.08	109.72	6,019.19	4,536.11	....
Mindoro (—)	6,839.60	968.06	[b] 424.46	214.01	38.37	547.51	9,032.01	7,172.69	....
Mountain Province (+)	33,797.13	11,464.35	[b] 27,153.15	....	....	5,298.46	77,713.09	34,675.40	....
Nueva Ecija (+)	29,210.34	3,502.16	6,940.81	3,352.13	....	973.79	43,979.23	11,518.80	....
Nueva Vizcaya (+)	7,407.69	1,853.30	4,860.66	65.12	620.94	1,226.65	16,034.36	7,080.69	....
Occidental Negros (+)	26,620.04	2,406.89	5,084.49	....	....	144.72	34,256.14	18,603.58	....
Oriental Negros (—)	16,644.80	2,720.21	[c] 1,687.64	....	....	672.46	21,725.11	5,222.19	....
Palawan (+)	13,582.70	628.66	2,319.84	447.14	158.18	4,390.31	21,526.83	10,718.80	....
Pampanga (+)	27,112.38	5,652.94	5,714.84	....	1,186.32	2,629.25	42,295.73	1,702.49	....
Pangasinan (—)	46,749.92	7,779.46	[b] 5,571.02	313.67	250.92	1,089.65	61,754.64	7,511.53	....
Rizal	28,384.69	3,019.21	4,728.68	[d] 184.76	....	2,990.34	39,307.68	5,278.61	....
Romblon	2,094.39	465.63	274.72	....	93.90	652.91	3,581.55	118.20	....

[b] Including consumption of office supplies and materials.
[c] Including medical and surgical equipment.
[d] Including other equipment.
[e] Overdraft in 1919.
[f] Including the overdraft in 1919.

TABLE B.—*Financial statement*—Continued.

Province.	Expenditures.						Total. Expenses.	Balance at the end of 1920.	Deficits at the end of 1920.
	Salaries of personnel.	Traveling expenses and per diems.	Medicines and disinfectants.	Medical and surgical equipment.	Other equipment.	Other expenses.			
Samar (+)	22,063.13	4,424.81	4,664.33			1,745.52	32,897.79	8,856.20	
Sorsogon (+)	21,640.67	2,199.03	3,454.66			56.36	27,350.72	2,078.74	
Tarlac (+)	16,617.54	2,069.44	3,279.01	2,578.86	2,194.67	1,452.72	28,192.24	1,502.06	
Tayabas	34,138.51	9,295.54	6,903.07		2,616.79	456.33	53,410.24	6,142.89	
Zambales (+)	7,347.34	758.26			63.58	1,463.54	9,632.72	261.48	
Total	734,551.77	136,523.30	161,640.88	11,372.91	18,196.05	82,171.32	1,144,456.23	248,330.40	13,572.44

NOTE.—The sign minus (—) or plus (+) written after the name of a province, indicates that the appropriations for this year is less, or more, than that of last year, the sign minus (—) indicating a decreased appropriation, and the sign plus (+) an increased appropriation.

Some provinces accumulated the balance from year to year for the purpose of establishing permanent sanitary improvements, such as hospitals, sanitary convenience stations, public laundries, public baths, etc., etc., but others included the balance with the regular appropriations made for the maintenance of their health organizations.

The salaries paid to the sanitary inspectors in the provinces are not enough to fairly compete with offers by commercial firms which usually give better pay and with the intention to appoint so far as possible sanitary inspectors who have finished the second year course in the high school and so as to have men who can qualify for the Civil Service examinations, raising in this way the standard of the subordinate personnel, this office recommended to all district health officers to fix the salary of the sanitary inspectors for the year 1921 at not less than ₱40 per month if the financial status of the health fund of the provinces so permits. Also the district health officers have been instructed that they should consider any increase in the salary of sanitary inspectors before any increase in the salary of presidents of sanitary divisions, for the reason that the presidents of sanitary divisions are only "part time officers" and are entitled to private practice, and therefore may obtain extra compensation from their private practice.

The intention of this office was also to appoint one nurse for each sanitary division for the special mission of working towards the reduction of infant mortality, but as the majority of the provinces could only offer a maximum salary of ₱80 per month, and this salary is considered by the nurses as very meagre, only those nurses who could live in their home town, accepted the position. For this reason, many vacancies of district nurse remained unfilled during the year as well as at the close of this report.

Loans requested. During the year, the provinces and municipalities detailed in the following tabulation applied for loans either from the Postal Savings Bank or Insular Fund:

Province.	Municipality.	Amount.	Purpose.
Albay	Albay	₱12,000	Public market.
Antique	Barbaza	1,000	Artesian well.
Do	Dao	5,000	Do.
Do	Pandan	1,500	Do.
Do	Sibalom	7,156	Do.
Bohol	Calape	(a)	Public market.
Do	Loon	(a)	Water system.
Do	Tagbilaran	(a)	Public market.
Do	Tubigon	(a)	Water system.
Do	Valencia	(a)	Do.
Cebu	Argao	20,000	Public market.
Do	Barili	25,000	Do.
Do	Bogo	17,000	Do.
Do	Carcar	40,000	Water works.
Do	Carcar	20,000	Public market.
Do	Dalaguete	15,000	Do.
Do	Danao	16,000	Do.
Do	Dumanjug	25,000	Do.
Do	Ginatilan	2,000	Water works.
Do	Liloan	16,000	Public market.
Do	Mandawe	14,000	Do.
Do	Moalboal	17,000	Do.
Do	Opon	18,000	Do.
Do	Oslob	15,000	Do.
Do	San Fernando	17,000	Do.
Do	Sibonga	26,000	Do.
Do	Toledo	15,000	Do.
Do	Tudela	16,000	Water works.
Iloilo	Province	125,000	Do.
Do	.....do	40,000	Hospital
Do	Dumangas	33,000	Public market.
Do	Janiuay	18,000	Do.
Do	Jaro	40,000	Do.
Do	Jaro	50,000	Water works.
Do	La Paz	10,000	Public market.
Do	Sara	10,000	Artesian well.
Do	Tigbauan	20,000	Public market.
Do	Iloilo	200,000	Water works.
Do	Santa Barbara	25,000	Do.
Leyte	Babatnon	20,000	Public market.
Do	Cabalian	2,000	Artesian well.
Do	La Paz	20,000	Public market
Do	Malitbog	14,000	Do.
Do	San Isidro	2,000	Artesian well.
Romblon	Romblon	10,000	Water works.
Do	Looc	15,000	Do.
Do	Province	10,000	Hospital.
Sorsogon	Barcelona	(a)	Water works.
Do	Irosin	(a)	Public market.
Total		1,054,656	

[a] Amount not stated.

Nine provinces and twenty-seven municipalities requested loans in the previous year amounting ₱742,679.16 as compared with 44 municipalities during the present year. The total amount requested during the present year exceeds that requested in the year 1919 by ₱311,976.84. This fact means that the municipal and provincial authorities are giving more attention every year to sanitary matters.

VITAL STATISTICS.

By direction of the Director of Health, the statistical data by provinces (included in the report of this Division in the Annual Report of 1919) for the present year will be prepared by the Office of Statistics and included under General Statistics.

This is the reason why only a summary of the total births, deaths, marriages, infant mortality, and mortality without medical attendance, with their respective rates, is given in Table C.

TABLE C.—*Vital statistics.—Condensed report of births, deaths, marriages, infant mortality and mortality without medical attendance pertaining to the provinces embraced by this Division.*

	1920	1919	1918	1917	1916
Estimated population	8,800,526	8,812,097	8,681,381	8,546,760	8,412,346
Births	330,697	291,973	329,995	331,022	319,016
Deaths	184,692	303,544	338,701	194,109	180,629
Marriages	71,303	64,236	70,701	76,747	66,898
Infant mortality	51,909	67,839	83,496	59,695	52,645
Deaths without medical attendance	168,523	275,061	283,706	168,896	149,524
Birth rate	37.57	33.13	38.01	38.73	37.92
Death rate	20,98	34,44	39,01	22,71	21,47
Marriage rate	16.20	14.58	16.28	17.95	15.94
Infant mortality rate	156.90	233.30	246.51	180.33	165.33
Rate of deaths without medical attendance	[a] 91.90	[a] 91.20	[b] 87.40	[c] 91.40	[c] 88.60

[a] Province of Camarines Norte, deduced.

[b] Provinces of Albay, Batanes and Camarines Norte, deduced.

[c] Provinces of Albay, Batanes, Camarines Norte and Mindoro, deduced.

Complete and scientific study of vital statistics being one of the most important points in health organization, great efforts have been made by this office toward demanding from health officers the most exact and complete possible data with regard to statistics; and with a view to establishing a "Standard and Regular Method of Keeping Statistics" in the provinces, the following circulars were issued:

PHILIPPINE HEALTH SERVICE.

MANILA, *February 7, 1920.*

CIRCULAR }
S-7. }

To all District Health Officers:

With the end in view of establishing a "Standard and Regular Method of Keeping Statistics" and for the better facility in the performance of the work and also for the convenience of all concerned regarding the keeping of vital statistics, it has been deemed necessary and decided to make a slight change in the present week-ending schedule regarding the weekly statistical reports submitted to this office by all district health officers under the supervision of this Division.

As has been planned, each year should be divided into 52 weeks, each week to include only seven days and to end on Saturday, except the first week which may begin, and the last week which may end, on any day other than Saturday and also may include less than or more than seven days. This exception is to be made only for the first and last weeks of the year for the purpose of regularly dividing the year in 52 weeks ending on Saturday. In preparing the comparative weekly statistical reports to be submitted to this office, the district health officers should know that in giving the data for any week of the year, said data should be compared with the data of the corresponding week of the previous year, regardless of the dates included in the two weeks compared or the dates on which they end. For example: The first week of the year 1919 includes eleven days, while the corresponding week of the year 1920 includes only ten, but in spite of their difference, both should be considered as the first weeks of the years 1919 and 1920, respectively. The same may be stated with reference to the last week of the year; the two weeks compared may be of a different number of days and may also end on a day other than the regular ending date.

For the guidance of all district health officers, a schedule, as outlined below, for the week-endings for both the present and the previous year, is given herewith:

1919		1920	
January 1 to January 11	1st week.	January 1 to January 10	1st week.
January 12 to January 18	2nd week.	January 11 to January 17	2nd week.
January 19 to January 25	3rd week.	January 18 to January 24	3rd week.
January 26 to February 1	4th week.	January 25 to January 31	4th week.
February 2 to February 8	5th week.	February 1 to February 7	5th week.
February 9 to February 15	6th week.	February 8 to February 14	6th week.
February 16 to February 22	7th week.	February 15 to February 21	7th week.
February 23 to March 1	8th week.	February 22 to February 28	8th week.
March 2 to March 8	9th week.	February 29 to March 6	9th week.
March 9 to March 15	10th week.	March 7 to March 13	10th week.
March 16 to March 22	11th week.	March 14 to March 20	11th week.
March 23 to March 29	12th week.	March 21 to March 27	12th week.
March 30 to April 5	13th week.	March 28 to April 3	13th week.
April 6 to April 12	14th week.	April 4 to April 10	14th week.
April 13 to April 19	15th week.	April 11 to April 17	15th week.
April 20 to April 26	16th week.	April 18 to April 24	16th week.
April 27 to May 3	17th week.	April 25 to May 1	17th week.
May 4 to May 10	18th week.	May 2 to May 8	18th week.
May 11 to May 17	19th week.	May 9 to May 15	19th week.
May 18 to May 24	20th week.	May 16 to May 22	20th week.
May 25 to May 31	21st week.	May 23 to May 29	21st week.
June 1 to June 7	22nd week.	May 30 to June 5	22nd week.
June 8 to June 14	23rd week.	June 6 to June 12	23rd week.
June 15 to June 21	24th week.	June 13 to June 19	24th week.
June 22 to June 28	25th week.	June 20 to June 26	25th week.
June 29 to July 5	26th week.	June 27 to July 3	26th week.
July 6 to July 12	27th week.	July 4 to July 10	27th week.
July 13 to July 19	28th week.	July 11 to July 17	28th week.
July 20 to July 26	29th week.	July 18 to July 24	29th week.
July 27 to August 2	30th week.	July 25 to July 31	30th week.
August 3 to August 9	31st week.	August 1 to August 7	31st week.
August 10 to August 16	32nd week.	August 8 to August 14	32nd week.
August 17 to August 23	33rd week.	August 15 to August 21	33rd week.
August 24 to August 30	34th week.	August 22 to August 28	34th week.
August 31 to September 6	35th week.	August 29 to September 4	35th week.
September 7 to September 13	36th week.	September 5 to September 11	36th week.
September 14 to September 20	37th week.	September 12 to September 18	37th week.
September 21 to September 27	38th week.	September 19 to September 25	38th week.
September 28 to October 4	39th week.	September 26 to October 2	39th week.
October 5 to October 11	40th week.	October 3 to October 9	40th week.
October 12 to October 18	41st week.	October 10 to October 16	41st week.
October 19 to October 25	42nd week.	October 17 to October 23	42nd week.
October 26 to November 1	43rd week.	October 24 to October 30	43rd week.
November 2 to November 8	44th week.	October 31 to November 6	44th week.
November 9 to November 15	45th week.	November 7 to November 13	45th week.
November 16 to November 22	46th week.	November 14 to November 20	46th week.
November 23 to November 29	47th week.	November 21 to November 27	47th week.
November 30 to December 6	48th week.	November 28 to December 4	48th week.
December 7 to December 13	49th week.	December 5 to December 11	49th week.
December 14 December 20	50th week.	December 12 to December 18	50th week.
December 21 to December 27	51st week.	December 19 to December 25	51st week.
December 28 to December 31	52nd week.	December 26 to December 31	52nd week.

PHILIPPINE HEALTH SERVICE.

MANILA, *April 14, 1920.*

CIRCULAR }
S–26. }

To all District Inspectors of Health Districts of Inspection:

District health officers have been instructed to furnish the district inspectors of their respective health district, a copy of the weekly statistical reports to be submitted to the Central Office.

District inspectors shall study the weekly statistical reports received by them with due regard to instructions given in Circulars Q–84, R–21, and R–37, and any increase noted either in the total mortality or in the mortality under one year during a given week, should be referred immediately to the district health officer for explanation. If the explanation given by the district health officer does not clearly demonstrate that such increase in the mortality is not due to an epidemic, this fact should be duly investigated by the district inspectors either on their regular trip of inspection or at the earliest possible date to ascertain if the increase might be attributed to an outbreak of epidemic.

Reports of the explanation given by the district health officer or of the investigation performed by the district inspectors should be forwarded without delay to the Central Office.

(Sgd.) S. V. DEL ROSARIO,
For and in the absence of the Acting Director of Health.

THE GOVERNMENT OF THE PHILIPPINE ISLANDS, DEPARTMENT OF PUBLIC INSTRUCTON, PHILIPPINE HEALTH SERVICE.

MANILA, *June 23, 1920.*

CIRCULAR }
S–42. }

To all Chiefs of Divisions, District Inspectors, District Health Officers, Presidents of Sanitary Divisions, Sanitary Inspectors, and other Employees of the Service concerned, and Municipal Secretaries.

The collection of vital statistics, especially in provincial towns, is still in an unsatisfactory state. Over 90 per cent of all deaths are without medical attendance, hence the duty of making the diagnosis and issuing a death certificate devolves upon the health officer, or, in his absence, upon the president, the secretary, or a councilor of the municipality. This practice constitutes the most important difficulty in making a good and uniform mortality statistics. The certificate of death is a very important public document and the data required therein must be supplied with strict regard to the truth. While the returns concerning the name of the deceased, his age, sex, nationality, ocupation, etc., are readily obtainable, it is found that the statement of the cause of death is in many instances indefinite and often misleading. To render our death statistics more precise and dependable, medical officers of the service and others concerned are hereby requested to make a careful investigation of each case of death without medical attendance so as to enable him to make an approximately correct diagnosis and avoid the use of indefinite terms and the making of diagnosis of terminal conditions.

Oftentimes errors result from lack of appreciation of what is meant by the "primary cause" of death and what is intended by the "secondary or contributory cause."

The primary cause is the disease which begins as the chief or fatal illness and is not that condition which immediately precedes death. Example: A child with measles who has a fatal termination through bronchopneumonia dies of measles, it being the primary cause, and not of bronchopneoumonia, the contributing cause.

Following are some of the questionable diagnoses, diagnoses of terminal conditions and indefinite term found in the death records of several municipalities. They should be used with caution.

QUESTIONABLE DIAGNOSES.

"Asphyxia neonatorum."—Not a few causes of death are returned as *asphyxia neonatorum* on account of lack knowledge of the true cause. A careful investigation will often give us the clue to the true diagnosis. Do not give this return where the cause of death may otherwise be obtained.

"Apthas."—The possibility of it being a case of diphtheria should be eliminated in making this diagnosis.

"Beriberi, infantile."—Often within the first 4 months of life and always within the first year.

"Convulsions, infantile."—Merely a symptom and gives no clue to the actual cause of death. Sometimes used as a synonym of infantile beriberi or tetanus. In these cases the more definite term should be used.

"Debility, congenital."—Not admissible after the first year of life. If baby is premature always state "premature birth." This diagnosis is very questionable in the Philippine Islands. Many deaths returned as such are due to other causes. Do not use this term unless no other cause can be assigned.

"Debility, senile."—This term should not be used unless no other cause can be assigned and never when the deceased is under 70 years.

"Fever, yellow."—This disease is not known to have occurred in the Philippines. Cases reported as yellow fever, are usually cases of malaria with jaundice or some other infectious fever with jaundice.

"Gastro-enteritis, acute."—In the presence of an epidemic or even of sporadic cases of cholera, this diagnosis may be questionable. Atypical cases of cholera often occur, especially in children. In case of doubt, stool specimens should be submitted for bacteriological examination.

"Haemorrhage."—Frequently masks tuberculosis or deaths from injuries. Traumatic—name the disease or condition causing death, in the course of which the haemorrhage was an incident.

"Cirrhosis, hepatic."—State whether due to alcohol or to other causes.

"Hydrocephalus."—Acquired or congenital, tubercular or not.

"Septicaemia."—State the cause whether puerperal or not. For example, a case of septicaemia due to purulent peritonitis should be classified under 117 while if stated septicaemia only it would be classified under 20. If peritonitis is due to gonorrohœa or syphilis or other cause, the classification also varies for statistical purpose.

"Infection, umbilical."—No infection of the umbilicus should be assigned as a cause of death after three months of the infant's life.

"Intestinal parasite."—This in itself does not cause death but is possible only when accompanied by such complications as intestinal obstruction or peritonitis by perforation, invasion of visceras, etc.

DIAGNOSES OF TERMINAL CONDITIONS.

"**Dropsy.**"—Merely a symptom and a terminal condition in many diseases, such as, abdominal tuberculosis, organic heart disease, chronic nephritis, etc. Always give the primary cause.

"**Marasmus.**"—The name of the disease causing it should always be given.

"**Meningitis.**"—Acute, simple or cerebral. Often a terminal condition in gastro-enteritis or cholera, especially in children. Preference should be given to the primary disease. "Meningitis" should only be used when epidemic cerebrospinal meningitis is meant.

"**Nephritis, acute or subacute.**"—Give the primary disease. A frequent sequela of cholera, or other infectious diseases.

"**Pneumonia, hypostatic.**"—The primary disease should be given.

"**Uraemia.**"—A terminal condition. The primary disease causing it should be given.

INDEFINITE, MISLEADING OR UNDESIRABLE TERMS.

"**Alferezia.**"—The term infantile beriberi should always be employed when this is meant. Remarks on the use of the term infantile convulsions are also applicable to this term.

"**Anemia.**"—Should state the kind and the cause, and whether primary or secondary. Although admitted in the official nomenclature, this term is often a refuge of ignorance and more or less worthless as are the terms "infantile convulsions, meningitis," etc.

"**Angina.**"—Should be always qualified: Angina pectoris, Ludwig's angina, scarlatinal, diphtheritic, etc.

"**Anuria.**"—It must be qualified and, if possible, the cause should be stated.

"**Apoplexy.**"—This term is sometimes interchanged with organic heart disease. It must be qualified thus: Cerebral, pulmonary, cardiac, etc.

"**Asistola.**"—Means nothing except that the heart stopped beating. "Organic heart disease" is permissible when diagnosis is not possible.

"**Carcinoma.**"—The name of the organ affected should be stated to render our statistics of this disease more valuable. The influence of the *buyo* in buccal carcinoma, for instance, might be more correctly appreciated.

"**Catarrh, intestinal**" "**catarrh, gastro-intestinal.**"—Simply refer to symptoms and are worthless as death returns. Should be avoided and if possible not used.

"**Childbirth.**"—Often a false return, when a sequela of childbirth is meant, such as, "post-partum haemorrhage," puerperal fever," etc.

"**Colico miserere.**"—The term "intestinal intussusception" or even of "intestinal obstruction" should be preferred.

"**Consumption, ill-defined**" should be qualified.

"**Death, accidental.**"—If all cadavers are inspected before interment, a more defined cause of death can usually be assigned in cases like this.

"**Diathesis.**"—Should be qualified. Tubercular, gout, rheumatism, etc.

"**Dyspepsia.**"—This term is indefinite unless qualified, thus: "Chronic dyspepsia."

"**Eclampsia.**"—This term should always be qualified, especially when it refers to a married woman in the child-bearing stage.

"**Enteritis.**"—Merely a symptom of a large number of affections worthless as a return for statistical purposes. State the cause whenever possible.

"**Fiebre gastrica.**"—Simply means fever with gastric irritation and should not be used as cause of death.

"**Fever, protracted.**"—Simply means long continued fever. Not acceptable return.

"**Fever, relapsing.**"—This disease is not known to have occurred in the Philippines. The deaths so reported are usually either from malaria or typhoid.

"**Fractures.**"—Cause should always be specified. State whether accident, homicide, suicide, etc.

"**Gastralgia.**"—Indefinite, should not be loosely used.

"**Gastrorrhœa.**"—Simply means hæmorrhage from the stomach. State the cause, ulcers, traumatism, accidental, homicide, etc.

"**Indigestion, acute,**" "**Gastritis, acute.**"—The term should not be loosely used to cover almost any fatal affection with "irritation of the stomach."

"**Neurasthenia, abdominal.**"—This term conveys no definite meaning.

"**Paralysis.**"—This term should always be qualified as for instance, general paralysis of the insane.

"**Peritonitis.**"—Mention the primary disease causing it. Otherwise it is indefinite.

"**Rhinorrhea**" used as **epistaxis.**—Was this a case of haemophilia? Must not be used, and if used, always state the cause.

"**Scrofula.**"—If tuberculosis of the glands is meant, this term should be preferred as it is more definite and technical.

"**Shock, traumatic.**"—State the cause and specify whether due to homicide, suicide, accident, operation, etc.

"**Softening of the brain.**"—Not admissible unless the cause is stated.

"**Tuberculosis.**"—State the organs affected.

"**Tumor, uterine.**"—Too vague and includes several diseases of different nature and etiology.

"**Typhus.**"—When typhoid fever is meant, the term should always be qualified thus: "abdominal typhus." Typhus fever is never known to have occurred in the Philippines.

As general recommendations for making dependable vital statistic and for the establishment of a uniform procedure to compile death returns from the provinces, the following considerations have been quoted from pages 17, 18, and 19 of the "Manual of the International List of Causes of Death" of the United States Bureau of the Census, 1911, based on the second decennial revision by the International Commission, Paris, 1909, for information and guidance of compilers.

STATISTICAL TREATMENT OF JOINT CAUSES OF DEATH.

The expression "joint causes of death" is a convenient one for those cases in which the physician reports two or more causes or conditions upon the certificate of death of an individual. According to the general practice of statistical compilation, only one cause can be tabulated for each death, *consequently a process of selection is necessary.*

1. If one of the two diseases is an immediate and frequent complication of the other, the death should be classified under the head of the primary disease. Examples: Infantile diarrhoea and convulsions, classify

as infantile diarrhoea. Cholera and nephritis, classify as cholera. Measles and bronchopneumonia, classify as measles.

2. If the preceding rule is not applicable, the following should be used: If one of the diseases is *surely* fatal (apart from all treatment) and the other is of less gravity, the former should be selected as the cause of death. Example: Cancer and bronchopneumonia, classify as cancer. Pulmonary tuberculosis and puerperal septicaemia, classify as tuberculosis.

3. If neither of the above rules is applicable, then the following: If one of the diseases is *epidemic* and the other is not, choose the epidemic disease. Example: Typhoid fever and endocarditis, classify as typhoid fever. Measles and biliary calculi, classify as measles.

4. If one of the three preceding rules is not applicable, the following may be used: If one of the diseases is *much more frequently fatal* than the other, then it should be selected as the causes of death. Example: Pericarditis and appendicitis, classify as pericarditis.

5. If none of the four preceding rules applies, then the following: If one of the diseases is of rapid development and the other is of slow development, the disease of rapid development should be taken. Example: Cirrhosis and angina pectoris, classify as angina pectoris. Pleurisy and senile debility, classify as pleurisy.

6. If none of the above five rules applies, then the diagnosis should be selected that best characterizes the case. Example: Saturnism and peritonitis, classify as saturnism.

Precise diagnoses should be given the preference over vague and indetermined ones, such as "Hæmorrhage," "Encephalitis," etc. Arbitrary decisions should be avoided as much as possible by the use of the preceding rules.

When several diseases are reported as cause of death, the following rules should be observed:

1. The death is, as a rule, to be assigned to that number which represents the probable primary cause (Ground-leiden). For example, when nephritis and valvular heart diseases are returned, the death should be classified under heart disease as the probable primary cause. Only when the primary cause is not a real disease may it be disregarded. For example, with "senile debility and bronchitis" the deaths should be classified, not as senile debility but as chronic bronchitis.

2. With two independent diseases, the more severe should be chosen.

3. With an infectious disease and noninfectious disease, the former should be chosen. Example: Insanity and typhoid fever, classify as typhoid fever.

4. If acute diseases are reported with chronic diseases, the acute diseases are to be preferred. Example: Gastric ulcer and croupous pneumonia, classify as croupous pneumonia.

5. If two infectious diseases are reported as cause of death, then smallpox, scarlet fever, measles, typhus fever, diptheria, wooping cough, croupous pneumonia, influenza, typhoid fever, paratyphoid fever, Well's disease, relapsing fever, cerebrospinal fever, erysipelas, tetanus, septicaemia puerperal fever, plague, Asiatic cholera, dysentery, anthrax, glanders, rabies, leprosy, and trichiniasis, should have the preference over tuberculosis, or a venereal disease.

6. Causes of death from violence are usually preferrred.

7. Such returns as heart weakness ("heart failure"), cardiac paralysis, paralysis of the lungs, pulmonary oedema, coma, and the like, should be disregarded if other causes are named.

8. With tuberculosis of several organs, including that of the lungs, tuberculosis of the lungs should be selected.

Any one of the chief infective diseases is selected in preference to any other cause of death. Definite constitutional disease have preference over local diseases, as cancer over pneumonia. When apoplexy appears with disease of the heart or kidneys, the heart or kidney disease is selected. Embolism has preference to hemiplegia.

The disease of longest duration is selected if the foregoing rules are not thereby disregarded.

Violence, when specifically defined, is given preference over other consequences. The cause is given first choice over the result; as explosion in a coal mine is selected rather than crush or fracture of skull.

Physical diseases, as tuberculosis, are preferred to mental diseases as to the cause of death, but general paralysis of the same is the preferred term.

Puerperal causes are preferred, except when a serious disease (e. g.: cancer, chronic Bright's disease), was the independent cause.

Indefinite terms and titles are disregarded for definite ones.

And as closing remarks of the importance of this Circular, the following paragraph, taken from the book of Mr. George Chandler Whipple, recommended in Circular R–82, series 1919, is herein transcribed:

"Uses of death registration. The uses of death registration are legal, economic, and social. It assists in the prevention of and detection of crime. It is invaluable in the settlement of life insurance and property inheritance cases. It furnishes the basis of geneological studies. The statistics based upon these records have been a powerful weapon in studying disease, and therefore in improving the health of the race and lengthening human life. The records may be of great local value in the study and supression of epidemics and outbreak of communicable diseases."

V. DE JESUS,
Acting Director of Health.

(A) GENERAL STATISTICS.

The population given in Table C, page 197 has been estimated by the arithmetical method based on the population given in the Official Census for the years 1903 and 1918. The population for 1920 has been obtained by adding to the population calculated for 1919, the number of births reported in 1919 subtracting from this sum the number of deaths registered during the same year.

For this reason, the population given in the present report for the years 1916, 1917, 1918 and 1919 is not in accord with that given in the Annual Report of this Service for 1919.

The health condition of this Division during the year 1920 has been more satisfactory than that of previous years, as demonstrated by the statistics.

Excepting the deaths reported from smallpox which were due to an extension of the outbreak of the smallpox epidemic of 1918, and deaths from cholera limited to only eleven provinces, and deaths from dysentery, the year has been uneventful.

While in 1918, this Division lost 8,706 in population and 11,571 in 1919, during the present year it has gained 146,005 or 125,728 more than the losses during the past two years.

Corresponding with the decrease of total deaths, there has been a corresponding increase of marriages and births and a considerable lowering of infant mortality. This, of course, is due to the almost total absence of epidemics during the year.

(B) INFANT MORTALITY.

Notwithstanding the fact that the infant mortality rate registered during the present year is lower than that registered in the past years, it nevertheless remains at a high rate. The causes are the same as those specified in the report for the past year, but undoubtedly its reduction means that the mothers have attended with more interest the instruction given by the district nurses and the members of the women's clubs toward the care of infants, and in this manner a continuous deduction in the infant mortality will be noted in the coming years.

As it was noted from the weekly reports submitted by the district health officers that a notable increase in the infant mortality was registered in some provinces, an investigation of the matter was made, the result showing that such increase appeared in the Province of Bulacan during the period of from August 22 to August 28. The same fact was observed in the provinces of Pampanga, Isabela and Laguna for the period of from September 4 to September 11. The provinces of Abra, Antique and Batangas registered the same phenomena in the next week, or from September 12 to September 18. The provinces of La Union, Tarlac, Nueva Ecija and Ilocos Sur have taken their turn in like manner in the 39th week or from September 26 to October 2, and finally the Province of Cavite in the following week.

In grouping these provinces in accordance with their geographical location and chronological order of the registration of the phenomena, considering the Province of Bulacan as the center, because this province was the first in which the phenomena was observed, they may be separated into three groups: first, the north group, constituted by the provinces of Bulacan, Pampanga, Tarlac, Nueva Ecija, La Union, Abra, Isabela and Ilocos Sur; second, the south group, constituted by the provinces of Laguna, Batangas, Rizal and Cavite, and third, the Panay group, constituted by the provinces of Iloilo and Antique pertaining to Panay Island.

Studying the geographical location of these provinces, it may be seen that the cause of increase had its origin in the Province of Bulacan from which it took a course in concentric circles, invading first the provinces of Pampanga, Rizal and Cavite, then Tarlac and Laguna, then Nueva Ecija and Batangas, then continuing to the north of Luzon Island to the provinces of La Union, Abra, Isabela and Ilocos Sur, and establishing itself in an isolated focus on Panay Island.

In view of the above facts, it was strongly suspected that a specific cause originated such increase in infant mortality—a mortality that on the other hand during the second or third week of its registration, doubled the normal infant mortality without any increase of mortality in the age-groups over one year.

An investigation of this fact was made under the following plan: Each District Health Officer of the provinces affected was directed to prepare a tabulation. As an example, the table pertaining to the Province of Bulacan is here inserted.

This tabulation was prepared to enable the health officers to determine by weeks any increase of mortality in the present year as compared with the same period of the preceding year, and from the study of the results obtained in column 10 to verify which municipalities registered an increment, and proceed immediately to such municipalities for investigation.

The number of deaths of children under one year registered was not with a mark on a map of the municipalities affected, in order to see if the deaths were grouped in a manner constituting a determinate focus or were scattered throughout the whole territory comprised by the municipality.

In all the provinces mentioned, especially in Laguna, Pampanga, Bulacan, and Nueva Ecija, the deaths are grouped in determinate barrios, constituting a real focus.

A house to house inspection in the barrios infected showed that many infants under one year of age were suffering from beriberi, and from a careful study of the death certificates and from the answers of mothers in response to inquiries as to the visible symptoms of the illness of the children before death, it was concluded that beriberi in an epidemic character was the cause of such infant mortality increase.

Drs. Ocampo, Albert and Lopez-Rizal of the Council of Hygiene, were invited to make a special investigation of the causes

PROVINCE OF BULACAN.

Infant mortality (under 1 year) for weeks ending August 28 to October 16, 1920, compared with their corresponding periods in 1919.

(1)	(2)		(3)		(4)		(5)		(6)		(7)		(8)		(9)		(10)	
Week ending.	August 28.		September 4.		September 11.		September 18.		September 25.		October 2.		October 9.		October 16.		Total.	
Total deaths.[a]	127—118=9.		137—122=15.		139—134=5.		107—126=—19.		123—135=—12.		116—136=—20.		92—114=—22.		96—136=—40.			
Death under 1 year.[b]	25—45=—20.		29—49=—20.		36—65=—27.		24—53=—29.		33—60=—27.		40—52=—12.		25—51=—26.		38—58=—20.			
Municipality.	1920 over 1919.	1919 over 1920.	1920 over 1919.	1919 over 1920.	1920 over 1919.	1919 over 1920.	1920 over 1919.	1919 over 1920.	1920 over 1919.	1919 over 1920.	1920 over 1919.	1919 over 1920.	1920 over 1919.	1919 over 1920.	1920 over 1919.	1919 over 1920.	1920 over 1919.	1919 over 1920.
1. San Miguel	5		1		8		5				4		4		3		30	
2. Malolos			1		4		1		5		2				3		16	
3. Meycauayan	3		3		1			2	3			2			5		15	4
4. Paombong	2		4		2		3		1			3	2			1	14	4
5. Bustos		1				2	3		6				1		3		13	3
6. Angat		1	1		2		3			1	2		2		3		13	2
7. Obando	3				2				3		1		3			3	12	3
8. Quingua	3		1		3			1	4		1					1	12	2
9. Bulacan			7		1				1			1	1		2		12	1
10. Hagonoy							5				5		1			1	11	1
11. San Ildefonso		1	1		1		1		2		3		3			1	11	2
12. Bocaue					1		4		1		2		2		1		11	
13. Guiguinto	4				1				2			2	2		1		10	2
14. Norzagaray	2					1			1		1		2		3		9	1
15. Pulilan			2			1	4			1		2			2		8	4
16. Santa Maria		2		2		2	3			1	1		2		2		8	7
17. Marilao			1		4		1				1						7	
18. Baliuag			1		5		1			3		1		1			7	5
19. Bigaa	1			2	2			3				1	2			2	5	8
20. San Jose							1		2					1	1		4	1
21. San Rafael	1		2			1						1			1		4	2
22. Polo	1		1			1			1		1						4	1
23. Calumpit				2		2			1		1		1			1	3	5
	25	5	26	6	37	10	35	6	33	6	25	13	28	2	30	10	239	58

[a] Pertain to the year 1919.

[b] To the year 1920.

of the increase in infant mortality in the provinces of Nueva Ecija and Tayabas and they confirmed these results.

In Cavite, two expert nurses were detailed from October 22 to October 30 to make the above-mentioned kind of investigation.

Their work consisted in visiting those mothers who had lost a child under one year within the period of time in which the infant mortality increase was noted in this province and searching for the symptoms of the illness of the deceased.

On looking over the certificates of death, they found that acute bronchitis was the cause of the increase of deaths, but as this increase was noted in only two barrios of the municipality of Cavite, no definite conclusion was arrived at.

A physical examination of the mothers proved that out of 20 mothers of dead babies, 16 had symptoms of beriberi; out of 25 mothers of newly born babies under one year, 17 had symptoms of beriberi, and out of 7 pregnant women, 6 had symptoms of beriberi.

The above facts establishing the conclusion that beriberi was the real cause of the increase in infant mortality. Extract of tiki-tiki was profusely distributed among the mothers and at about the beginning of November the epidemic (?) in this province was considered as controlled.

This is not the first time that beriberi in either adults or infants has been registered as an epidemic (?) in the sanitary history of this country and therefore it would be possible to establish a theory that there are two kinds of beriberi: Beriberi due to the absence of vitamines in unbalanced diet and infectious beriberi, but it has not yet been possible to substantiate this theory by experiments and research.

(C) MORTALITY BY THE MOST COMMON DIAGNOSES USED.

Table D shows a résumé of the number of deaths attributed to the most common causes of death in the provinces and their causes are given by provinces in Table "Summary of the most Common Causes of Mortality during the past five years" under General Statistics.

As can be noted in Table D, the great mortality registered from the diseases annotated in the mentioned table has suffered a notable reduction if compared not only with the data pertaining to the year 1919, but also with that of previous years.

This is especially due to the fact that as in Circular S–42 (See page 199 of this report) more precise and clear instructions were given as to the method of performing correct diagnoses, in consequence the abuse of the use of the most common diagnoses as "convulsions," "congenital debility," "diarrhœa," "acute bronchitis," etc., used as causes of death by the sanitary inspectors and the public officials who are entrusted by law to issue death certificates, was discontinued.

Convulsions and congenital debility.—There still remains in the provinces the general tendency to make use of the expressions "convulsions," and "congenital debility" as causes of death, in spite of the continuous efforts made by this office not only during the present year but also in the previous years to discontinue such tendency. The little success obtained in this matter is principally due to the fact that the sanitary personnel in the provinces is not large enough to attend to all sanitary matters.

The incidence rate for said causes of death is comparable only to the incidence of malaria and tuberculosis. This apparently means that "convulsions" and "congenital debility" (which themselves do not mean a determinate cause of death) have an endemic character in this country, but as already has been stated in the report for the year 1918, in these two diagnoses also are included many deaths attributed to *indefinite causes of death* which are diagnosed by the municipal secretaries and councilors as *convulsions or congenital debility.*

This is the reason why absolutely correct mortality statistics from the provinces cannot possibly be obtained.

Beriberi.—During the present year, all the provinces except one (Tarlac) reported beriberi in adults and beriberi in infants separately as was directed since the year 1919. The number of deaths registered from beriberi is, with little difference, the same as those reported in the past year and is practically the same in number in adults as in infants. Although the incidence for beriberi in infants in the present year is higher than that of 1919, this fact could be considered as natural, because, as has already been stated in another part of this report, an outbreak (?) of beriberi in infants was registered in some provinces in the last quarter of the present year.

Diarrhœa and enteritis and acute bronchitis.—The number of deaths attributed to these diseases has suffered a great reduction as compared with the figures given in the previous year, although its incidence is still abnormal. This means that the causes which originated this fact still remain unsolved.

Malaria.—Malaria is at the head of the list of the most common causes of death with an incidence of 301.9 per 100,000 population and a ratio of 14.3 per cent of the total deaths.

Mortality figures show that the mortality from malaria practically remains the same every year. In the present year the mortality from malaria is more than the mortality from tuberculosis of all causes and more than the total deaths from communicable diseases, excluding the mortality from tuberculosis. From this fact it may be easily deduced that very little is done towards the eradication of malaria in the provinces, although one of the most easily controlable diseases, considered from the sanitary point of view, but the conditions mentioned on page 162 of last year's report still prevail, and this is the reason why malaria still prevails.

In this connection it should also be noted that perhaps the increase observed in this disease could be considered as a natural sequence to improved transportation facilities and consequent increase of passenger traffic between the region in which such disease is endemic and non-infected provinces. These passengers could easily spread malaria infection in the non-infected provinces to which they immigrate.

TABLE D.—*Summary of deaths from the most common diagnoses used during the past five years.*

Disease.	1920		
	Total.	Rate per 100,000 population.	Rate compared with total mortality.
Convulsions	18,272	207.60	9.80
Simple meningitis	2,331	26.40	1.20
Congenital debility	10,835	123.10	5.80
Beriberi of adults	4,431	50.30	2.90
Beriberi of infants	7,479	84.80	4.00
Diarrhœa and enteritis under two years	4,050	46.20	2.10
Diarrhœa and enteritis over two years	3,212	36.40	1.70
Acute bronchitis	7,924	90.00	4.20
Malaria	26,577	301.90	14.30
Bronchopneumonia	2,871	32.60	1.50
Cancer	789	8.90	0.42
Total	88,771	1,008.70	48.00

Disease.	1919		
	Total.	Rate per 100,000 population.	Rate compared with total mortality.
Convulsions	27,425	311.20	8.90
Simple meningitis	2,659	30.10	0.80
Congenital debility	11,037	125.20	3.30
Beriberi of adults	6,293	71.40	1.89
Beriberi of infants	5,986	67.90	1.80
Diarrhœa and enteritis under two years	6,156	69.80	1.84
Diarrhœa and enteritis over two years	5,700	64.60	1.70
Acute bronchitis	11,301	128.20	3.40
Malaria	33,444	379.50	10.03
Bronchopneumonia	2,929	33.20	0.88
Cancer	884	10.00	0.26
Total	113,814	1,291.50	34.14

TABLE D.—*Summary of deaths from the most common diagnoses used during the past five years*—Continued.

Disease.	1918 Total.	Rate per 100,000 population.	Rate compared with total mortality.
Convulsions	29,399	338.08	8.80
Simple meningitis	2,867	32.90	0.86
Congenital debility	12,286	141.30	3.60
Beriberi of adults	6,961	78.05	2.08
Beriberi of infants	3,458	39.70	1.03
Diarrhœa and enteritis under two years	5,704	65.50	1.70
Diarrhœa and enteritis over two years	3,278	37.70	0.90
Acute bronchitis	8,513	97.80	2.50
Malaria	33,192	381.70	9.90
Bronchopneumonia	2,592	29.80	0.70
Cancer	516	5.90	0.15
Total	108,766	1,250.80	32.60

Disease.	1917 Total.	Rate per 100,000 population.	Rate compared with total mortality.
Convulsions	23,036	269.50	11.50
Simple meningitis	2,297	26.80	1.10
Congenital debility	8,647	101.10	4.10
Beriberi of adults	5,363	62.70	2.70
Beriberi of infants	1,474	17.20	0.70
Diarrhœa and enteritis under two years	4,699	54.90	1.80
Diarrhœa and enteritis over two years	2,459	28.70	1.20
Acute bronchitis	7,970	93.20	4.00
Malaria	26,144	305.80	13.00
Bronchopneumonia	679	7.90	0.30
Cancer	444	5.20	0.20
Total	83,212	973.50	41.60

Disease.	1916 Total.	Rate per 100,000 population.	Rate compared with total mortality.
Convulsions	23,711	282.10	13.40
Simple meningitis	1,924	27.30	1.05
Congenital debility	8,269	9.84	4.50
Beriberi of adults	3,905	46.46	2.10
Beriberi of infants	1,875	22.30	1.03
Diarrhœa and enteritis under two years	4,384	52.10	2.40
Diarrhœa and enteritis over two years	2,224	25.30	1.22
Acute bronchitis	5,226	66.90	2.81
Malaria	23,138	275.30	12.70
Bronchopneumonia	573	6.80	0.31
Cancer	333	3.90	0.18
Total	75,562	899.10	41.50

The writer is of the opinion that it is already time to undertake a scientific and vigorous campaign against this disease, because it is not only responsible for 15 per cent of the total mortality, but also for the loss of production of many persons who are suffering from such disease and who are thereby incapacitated for work.

Summary.—The number of deaths registered in the present year from the most common diagnoses used is 88,771 or 39,726 less than in the past year, and as the present year is considered free from epidemics, the decrease in the mortality noted from the causes of death showing in "table of mortality by the most common diagnoses used confirm the statement," made on page 163 of last year's report, which states "in the cases of epidemics many cases diagnosed as deaths from common diseases, really are cases of communicable diseases."

(*D*) *Mortality from communicable diseases.*—Table E shows the mortality from communicable diseases registered during the present year as compared with that of the past four years.

The reduction of mortality by communicable diseases in the present year was almost one-third of the total mortality registered by these diseases in the past year. The incidence was also reduced from 1,462.7 per 100,000 population to 533.9 and the rate per cent compared with the total mortality from 38.5 to 23.60.

The most important disease which caused 12 per cent of the total deaths is tuberculosis. More than one-fourth of the total deaths in the present year was caused by tuberculosis and malaria. Were we able to reduce their incidence as well as to completely eradicate cholera, dysentery, typhoid fever, and smallpox, the general death rate should be reduced to 13 per 1,000.

Cholera and smallpox.—A few cases of these two diseases of the last years' epidemics have still been registered within the first months of the present year, but at the end of the year they were considered as completely eradicated except in five provinces which still reported sporadic cases.

Dysentery.—Although the mortality from dysentery has been reduced in the present year down to more than one-half as compared with the mortality registered from this disease in the past year, the health officers still continued giving little attention to this communicable disease and continued reporting cases of bacillary dysentery as amoebic dysentery. Circular S-51 was issued (see page 230) for the correction of such mistake.

Measles.—An outbreak of this disease appeared during the year in the provinces of Occidental Negros, Iloilo, Samar, and Cavite, the first province registering the highest mortality.

Only the district health officer of Cavite reported the history of the outbreak which reads as follows:

> I have the honor to inform you that several cases of measles are being registered in Caridad, barrio of Cavite.

The discovery of these cases happened, as follows:

On December 7 in the morning, this office was informed, not through any official channels, that in Caridad there is a case of measles. The president of the first sanitary division was ordered to proceed to the place at once for investigation, at the same time the undersigned with the Sanitary Inspector Brantigan started also to that place and we found that there was another case, two cases in all.

Immediately I ordered Sanitary Inspector Brantigan to bring all the sanitary inspectors at 2 o'clock p. m. on that day to the office of the president of the first sanitary division to receive instructions.

Instruction was given as follows: That four insular sanitary inspectors must make a survey of the districts Nos. 8 and 9 where the cases are registering, followed by a provincial sanitary inspector in the town of Cavite, and another one in the public market.

The result of the survey and of the house-to-house inspection was as follows:

	Cases.
December 7	2
December 8	19
December 9	18
Total	39

All the cases found are children between 8 months to 2 years old, with the exception of one, who was 12 years old.

Routinary sanitary measures were taken and the outbreak was promptly controlled.

Influenza.—In the month of December, an outbreak of influenza was registered in the Province of Tayabas. The climax of the outbreak was reached during the period of from December 19 to December 25, registering a total of 222 cases with 36 deaths. The outbreak was limited to only 18 barrios of the municipality of Mauban.

Summary.—The chief measures taken toward obtaining a reduction in the mortality from communicable diseases were the extension of sanitary education to the people by means of conferences and exhibitions; the enactment of sanitary laws and municipal ordinances regarding cleanliness and the strict enforcement of same; making obligatory the immediate reporting of all cases of communicable diseases to the sanitary authorities; the isolation and treatment of cases, under the most possible careful supervision; the protection of water supplies and food from pollution and contamination; and the provision of a sanitary disposal of excreta.

To make the control of communicable diseases more effective, it is necessary to increase the sanitary personnel to locate newly developed cases and to follow up the same, giving instruction as to the proper method of care to protect the public as well as the sanitary personnel. Also the control of communicable diseases requires much and constant attention and at the same time large funds to employ the services of "full-time" physicians and nurses wholly devoted to that work. Control is accomplished to a certain extent by the Service, but with the present inadequate and untrained sanitary personnel, complete control of communicable diseases is hardly attainable.

The district health officer of Batangas, submitted the following statement with reference to this matter, in which the writer concurs:

> For the effective control of these preventable maladies coördinated and centralized efforts are necessary. Private and semi-governmental agencies are at their best complementary in effect. *The creation of division of preventable diseases control in the Philippine Health Service will best serve the purpose.* Plans for the effective control of such diseases could be formulated, the supervision of the work entrusted to a responsible head add the *useless duplication of work may be avoided.*

CHARTS.

There are included in this report, three charts noted as Charts A, B, and C.

Chart A, health index.—This chart has been prepared for the comparison of the sanitary condition of the provinces deduced from their mortality rates.

This chart was prepared as follows: The total deaths (excluding those caused by any epidemic) in monthly periods of each year from the years 1914 to 1918, inclusive, were added together and divided by 5 to obtain the average number of deaths for a period of five years. The population in the provinces was estimated by arithmetical methods and based on the population given in the official census for the years 1903 and 1918, and to obtain the average population of the five-year period mentioned the same procedure as that used to obtain the average mortality for five years was followed.

The monthly death rate was obtained by the following formula:

$$\frac{\text{Deaths in one month} \times 12 \text{ (months of a year)} \times 1{,}000}{\text{population}} = \text{death rate;}$$

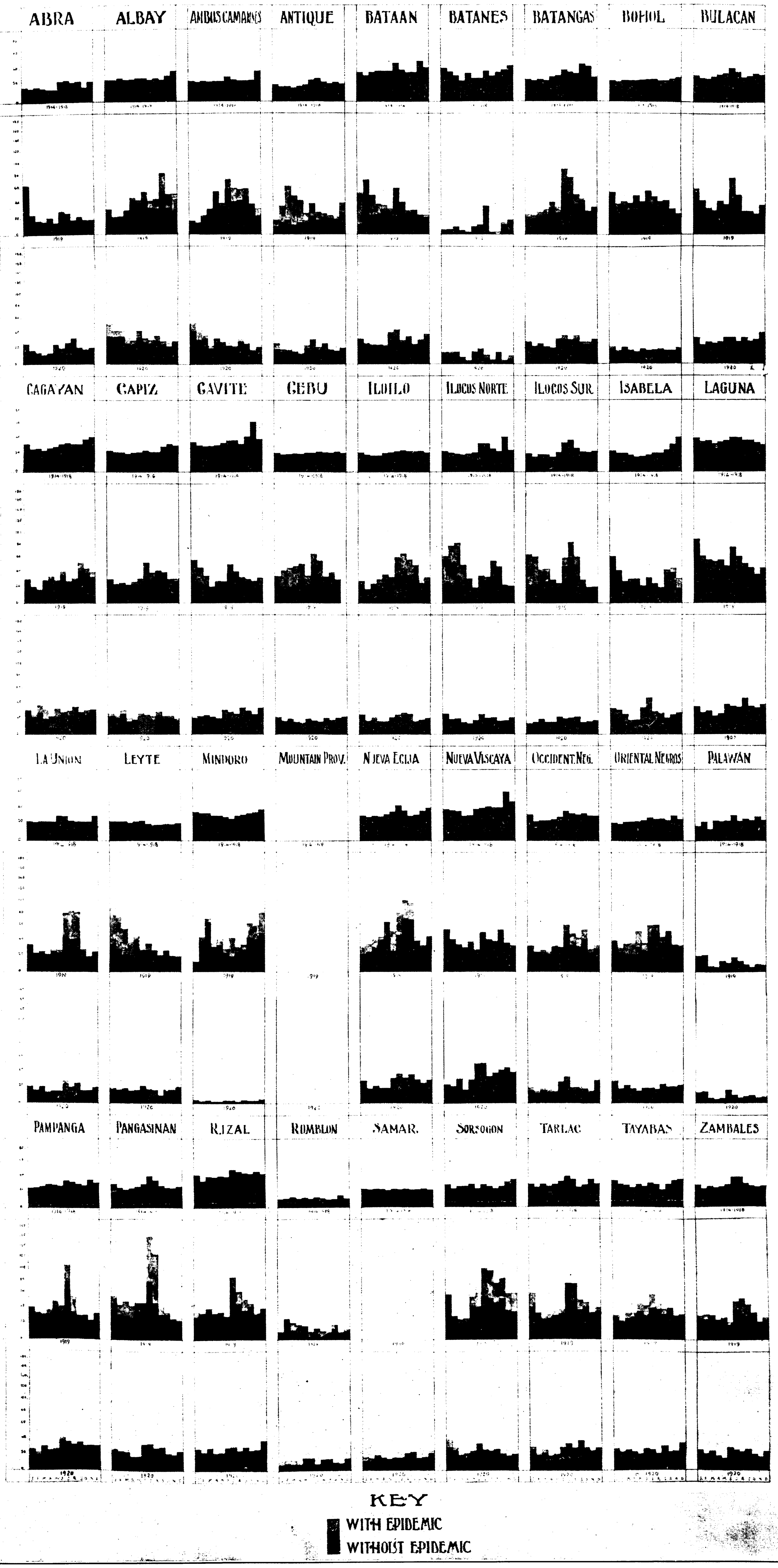
but as the factors twelve, one thousand, and population are constants in htis formula, the quotient of 12 × 1,000 divided by the population is called the *annual coefficient* and the product of the multiplication of this coefficient by the total number of deaths registered in one month is called the *Normal Health Index* or *Death rate per 1,000 population.* This health index is represented graphically in the chart.

Example: Suppose that we try to determine the *annual coefficient and the health index* of the Province of Capiz.

PHILIPPINE HEALTH SERVICE
SANITATION DIVISION IN THE PROVINCES

COMPARATIVE DEATHS RATE PER. 1000 POPULATION BY MONTHS

1914-1918 WITHOUT EPIDEMIC



The average population of this province for the years 1914 to 1918, inclusive, obtained as above-mentioned, is 272,062. The number of deaths (epidemics excluded) registered in the month of January was 508, and 406 in the month of February. Applying the anterior formula we have:

$$\frac{12 \times 1,000}{272,062} = \textit{annual health coefficient} \text{ or } 0.044.$$

Now multiplying 0.044 by 508, the number of deaths registered in the month of January, we obtain 22.35 which is the *normal health index* of the province for the month of January. Making the same operation for the month of February, we have $0.044 \times 406 = 17.86$ or *normal health index* for the month of February.

A logarithmic scale has been used for the graphic representation.

The same procedure and formula as above have been followed to obtain the data pertaining to the years 1919 and 1920.

The population considered in the said years also has been calculated by arithmetical methods.

The graphic notation of the monthly health index for the years 1919 and 1920 was made by following the same procedure that has been followed to obtain the normal health index. Now, in order that we may exactly know if any increase in the health index is due to any epidemic that was present in the year considered, the column representing in the chart the health index of the year given is divided into two parts: One part printed with red ink and the other with black ink. The whole column represents the total death rate for each thousand population or total health index for the month concerned. The red part represents the death rate due to the epidemic registered or health index of the epidemic, and the black part the health index of the other common causes of death.

Thus in the province considered (Capiz), the total mortality in the month of January of 1919 was 570 and 450 in the month of February and as the population of said province in the same year was estimated at 283,907, the health index (including epidemics) for the months of January and February of said year will be 25.65 and 20.25, respectively; but as of the 570 deaths in January, 68 were from the cholera and smallpox epidemics, and of the 450 deaths in the month of February, 52 were due to dysentery and smallpox, in order to obtain the normal health index for the two months considered, the deaths registered by epidemics should be deducted, and then 22.6 and 16.71 shall be considered as the normal health indices for the corresponding months. But as 22.35 is the health index pertaining to the month of January for the 5 years considered (epidemics excluded), and 22.60 is the health index for the same month in the year 1919, it results that the health index for the month of January in the year 1919 in the same as the health index pertaining to the five years adopted as comparison; therefore it may be safely assumed that there has not been an undue prevalence of any diseases other than smallpox and cholera as was already noted.

The same explanation can be made for the discussion of the health index for the year 1920.

The difference between 25.65, health index epidemics included, and 22.6, health index epidemics excluded, is printed in the chart with red ink.

The great advantage of the health index chart to this Division is that the Chief of the Division always has before him current information on the death rate in his Division and any increase may be easily noted. By this means, the district health officer of a district wherein an undue increase occurs in the death rate, can be immediately instructed and directed to take the proper sanitary measures for the early control of the epidemic.

The Mountain Province has not been included in the general health index of this Division, because its population is almost entirely non-Christian and therefore neither the births or deaths reported by this people can be considered or even approximated.

The Province of Samar also is not included in the chart because in spite of efforts made to obtain statistical data pertaining to the years from 1914 to 1918, the district health officer has not yet been able to furnish it at the close of this report.

Chart B.—This chart gives a graphic demonstration of the percentage of mortality by beriberi, malaria, cholera, smallpox, tuberculosis, and dysentery which are the six most common diseases registered in this country, in accordance with the reports submitted by the district health officers.

Data has been taken since the year 1902, and the mortality registered by the above-mentioned diseases is compared with the total deaths from all other causes.

The object of this chart is to see if said percentage had been reduced or remained stationary.

Looking over the chart we can note that beriberi, dysentery, and tuberculosis have remained practically at the same percentage since the year 1902 up to the present year, while malaria in some provinces has suffered a little reduction, remaining stationary in others and increasing in others.

Oversized
Foldout

With reference to cholera, it may be seen that it periodically appears and disappears, reappearing periodically every two years until the year 1910, then followed by a cessation of six years, and again appearing in 1916, and finally breaking out in an epidemic in the successive years, with an exacerbation in the year 1919.

Smallpox was registered with epidemic character in the years 1902 and 1903 and until the year 1918, only a few provinces reported small foci of infection. However, in 1918 a great epidemic broke out invading all the provinces of this Division, causing more deaths during the years 1918 and 1919 than during the epidemics of 1902 and 1903.

From the study of this chart it can be deduced that proper attention was not given in the provinces to the control of beriberi, malaria, tuberculosis, and dysentery since the year 1902. In another part of this report, the causes of failure of their immediate control have already been mentioned.

With respect to cholera and smallpox, it is evident that proper measures were taken for the eradication of these diseases when they appeared as epidemics, but the reappearance of cholera also means that the measures taken were not permanent enough to prevent a future reappearance of the disease and that they were only adequate for its temporary control.

As the number of cases registered in the epidemics following the epidemic registered in 1903 was smaller in comparison with those registered in the years 1902 and 1903, it could be assumed that the establishment in the provinces of safe water supplies would contribute to the lesser extension and intensity of the latest epidemics registered. We may emphatically state that until a more sanitary disposal of excreta in the provinces is enforced, cholera as well as dysentery and typhoid fever will never be completely eradicated, and the percentage of mortality from these diseases as demonstrated in Chart B, will remain stationary.

With reference to smallpox, its reappearance as an epidemic in the year 1918, after six years of non-appearance, could only mean that the proper and scientific vaccination carried out in the provinces during the years previous to 1912 was abandoned, resulting from this fact the registration of the epidemic in 1918.

Charts C, C–1.—These charts are prepared for comparison by months and years of the total mortality to the mortality due to tuberculosis, malaria, smallpox, typhoid fever, cholera, and dysentery. These charts serve only as a matter of information and to show the course of mortality from said causes compared with the previous years.

Each mentioned disease is noted with a different color in the chart, a millimeter representing ten deaths.

Of the charts discussed above, Chart A is the most important because by it, the Chief of Division is always enabled to intervene immediately in any province in which a sudden jump in the death rate is noted, investigating the facts, and if from the investigation it is deduced that the increase has been due to an increase in the number of deaths of *non-preventable* diseases, he can be assured that there is no danger of an outbreak of an epidemic, but if the increase is due to preventable diseases, he can issue a warning and get ready to take proper sanitary measures for the control of the epidemic at its beginning in order to avoid its development.

IV.

EPIDEMICS.

Generally speaking, no epidemics have been registered during the present year, but for the purpose of this report, as cholera, dysentery, typhoid fever, and smallpox were prevalent during the year, we are going to consider said diseases as registered with epidemic character and tabulated by months as in previous years.

TABLE E.—*Summary of deaths caused by communicable diseases occurring during the past five years.*

Disease.	1920		
	Total.	Rate per 100,000 population.	Rate per cent compared with total mortality.
Anthrax	206	2.60	0.12
Cerebrospinal meningitis	81	0.80	0.04
Cholera	1,384	15.60	0.70
Diphtheria	118	1.30	0.06
Dysentery	8,511	96.60	4.20
Glanders	31	0.30	0.01
Hookworm	254	2.80	0.13
Influenza	1,529	17.20	0.70
Leprosy	50	0.60	0.02
Measles	879	9.90	0.43
Pneumonia	1,264	14.30	0.60
Rabies	83	0.90	0.04
Smallpox	4,386	49.40	4.20
Syphilis	93	1.05	0.05
Tetanus	1,267	14.30	0.60
Tuberculosis of the lungs	22,292	251.80	11.15
Tuberculosis of other organs	1,117	12.60	0.56
Typhoid fever	2,362	27.02	1.20
Varicella	35	0.40	0.02
Varioloid	39	0.40	0.02
Whooping cough	1,228	13.80	0.60
Total	47,238	533.90	23.60

1920

PHILIPPINE HEALTH SERVICE

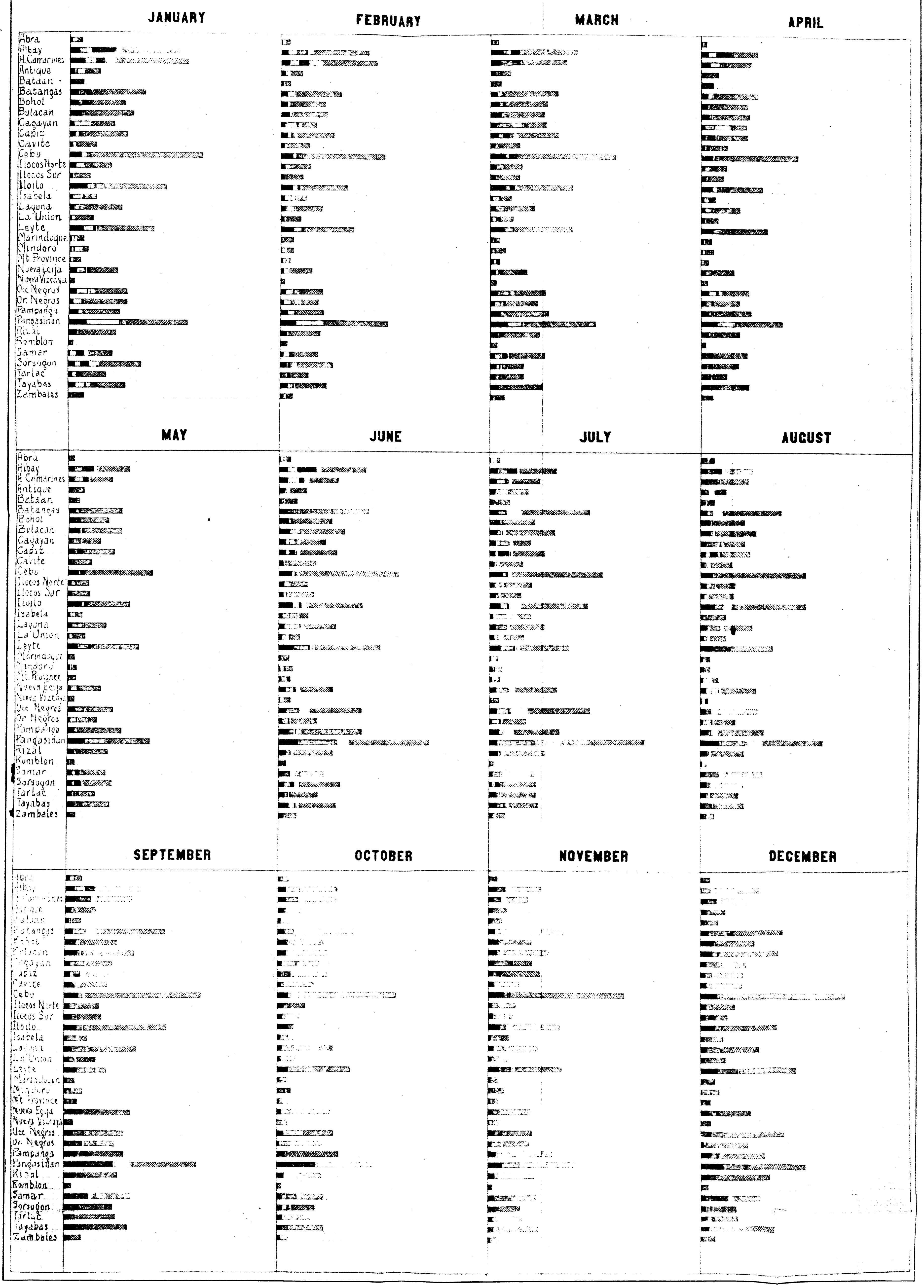
DIVISION OF SANITATION IN THE PROVINCES

COMPARATIVE MONTHLY MORTALITY

TOTAL DEATHS AND DEATHS BY COMMUNICABLE DISEASES

KEY:

LEGEND: TEN DEATHS TO A MILLIMETER.



PHILIPPINE HEALTH SERVICE

COMPARED MONTHLY MORTALITY BY PROVINCES

TOTAL DEATHS AND DEATHS BY COMMUNICABLE DISEASES

KEY

- Mortality on Tuberculosis
- Mortality on Malaria
- Mortality on Smallpox
- Mortality on Typhoid fever
- Mortality on Dysentery
- Mortality on Cholera
- Mortality on other causes.

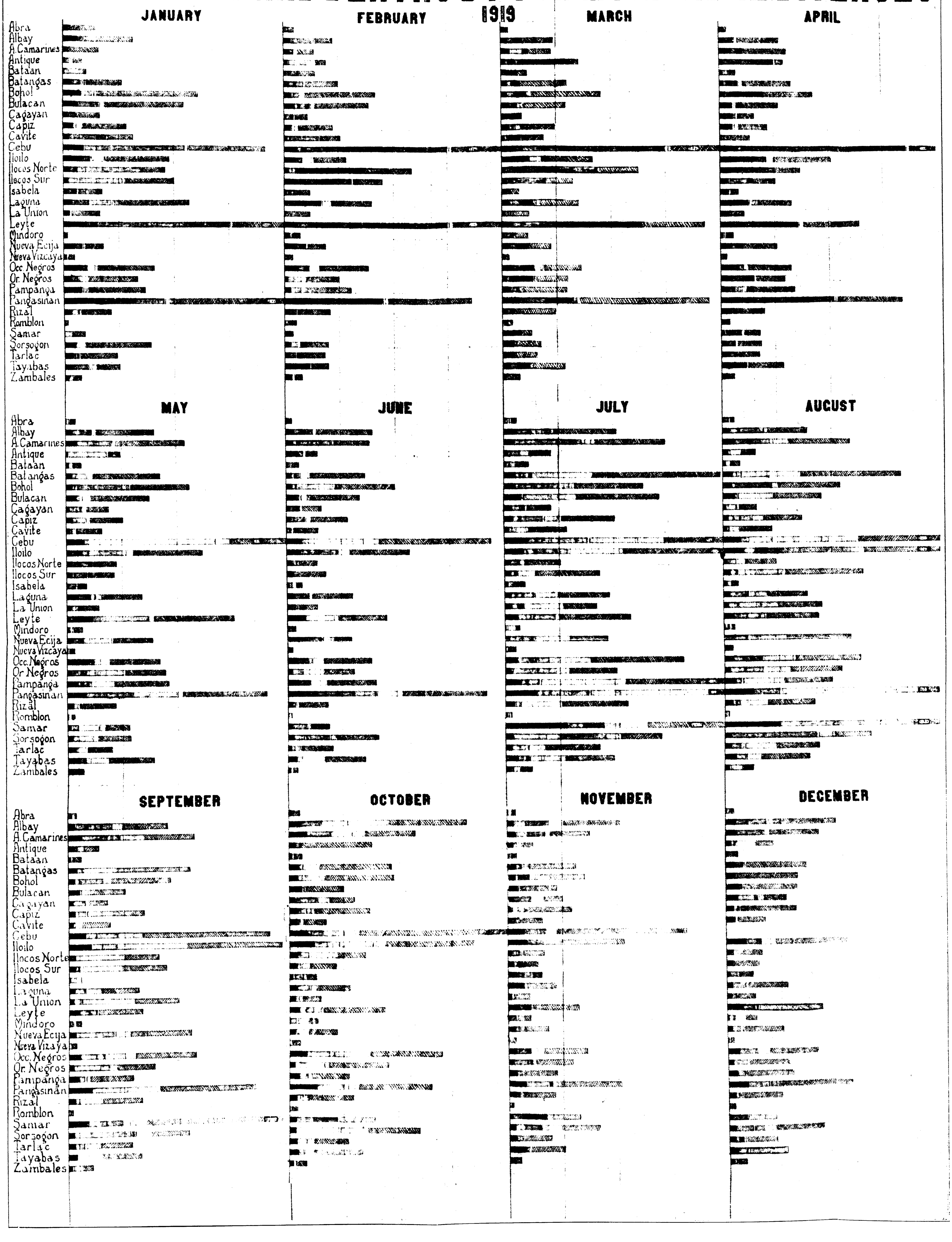


TABLE E.—*Summary of deaths caused by communicable diseases occurring during the past five years*—Continued.

Disease.	1919		
	Total.	Rate per 100,000 population.	Rate per cent compared with total mortality.
Anthrax	278	3.16	0.80
Cerebrospinal meningitis	216	2.50	0.06
Cholera	18,052	205.80	5.40
Diphtheria	148	1.70	0.04
Dysentery	18,066	205.95	5.40
Glanders	45	0.50	0.01
Hookworm	863	9.80	0.26
Influenza	5,759	65.70	1.70
Leprosy	60	0.70	0.02
Measles	362	4.10	0.11
Pneumonia	1,356	15.40	0.40
Rabies	71	0.80	0.02
Smallpox	45,873	522.90	13.70
Syphilis	199	2.30	0.06
Tetanus	1,170	33.30	0.30
Tuberculosis of the lungs	29,340	334.40	8.80
Tuberculosis of other organs	1,562	17.80	0.50
Typhoid fever	3,201	36.40	0.10
Varicella	131	1.50	0.03
Varioloid	149	1.70	0.04
Whooping cough	1,596	18.10	0.50
Total	128,497	1,462.70	38.50

Disease.	1918		
	Total.	Rate per 100,000 population.	Rate per cent compared with total mortality.
Anthrax	181	2.08	0.05
Cerebrospinal meningitis	86	0.98	0.02
Cholera	4,695	53.90	1.40
Diphtheria	87	1.00	0.02
Dysentery	9,845	113.20	2.90
Glanders	19	0.21	0.01
Hookworm	283	4.30	0.11
Influenza	84,171	967.90	25.25
Leprosy	31	0.35	0.01
Measles	793	9.10	0.23
Pneumonia	1,443	16.50	0.40
Rabies	68	0.78	0.02
Smallpox	14,466	166.30	4.30
Syphilis	309	3.50	0.09
Tetanus	1,283	14.70	0.38
Tuberculosis of the lungs	22,286	256.30	6.60
Tuberculosis of other organs	1,719	19.70	0.50
Typhoid fever	3,802	43.70	1.14
Varicella	61	0.70	0.02
Varioloid	152	1.70	0.04
Whooping cough	2,078	23.80	0.62
Total	147,957	1,701.50	44.30

Disease.	1917		
	Total.	Rate per 100,000 population.	Rate per cent compared with total mortality.
Anthrax	177	2.07	0.08
Cerebrospinal meningitis	96	1.10	0.04
Cholera	6,815	79.70	3.40
Diphtheria	72	0.80	0.03
Dysentery	8,051	94.10	4.02
Glanders	13	0.15	0.01
Hookworm	244	2.80	0.12

TABLE E.—*Summary of deaths caused by communicable diseases occurring during the past five years*—Continued.

Disease.	1917 Total.	1917 Rate per 100,000 population.	1917 Rate per cent compared with total mortality.
Influenza	1,240	14.50	0.62
Leprosy	24	0.28	0.01
Measles	1,030	12.50	0.51
Pneumonia	224	2.60	0.11
Rabies	61	0.70	0.03
Smallpox	254	2.90	0.12
Syphilis	146	1.70	0.07
Tetanus	1,221	14.20	0.61
Tuberculosis of the lungs	18,199	212.80	0.09
Tuberculosis of other organs	1,507	17.60	0.75
Typhoid fever	3,617	42.30	1.80
Varicella	....	....	....
Varioloid	....	....	....
Whooping cough	2,465	28.80	1.23
Total	45,456	531.80	22.70

Disease.	1916 Total.	1916 Rate per 100,000 population.	1916 Rate per cent compared with total mortality.
Anthrax	110	1.30	0.06
Cerebrospinal meningitis	21	0.24	0.01
Cholera	7,062	84.30	3.80
Diphtheria	81	0.96	0.04
Dysentery	7,316	87.06	4.02
Glanders	16	0.19	0.01
Hookworm	212	2.50	0.11
Influenza	1,282	15.20	0.70
Leprosy	13	0.15	0.01
Measles	708	8.42	0.38
Pneumonia	226	2.60	0.12
Rabies	48	0.57	0.02
Smallpox	250	2.90	0.13
Syphilis	35	0.40	0.01
Tetanus	948	1.12	0.52
Tuberculosis of the lungs	17,550	208.80	9.60
Tuberculosis of other organs	1,200	14.20	0.60
Typhoid fever	2,070	24.80	1.13
Varicella	....	....	....
Varioloid	....	....	....
Whooping cough	1,953	23.20	1.07
Total	41,101	489.10	22.60

(A) *Cholera; Table F.*—At the end of the past year, sixteen provinces still remained infected wtih cholera, although in five only residual cases were registered. In the present year and in the month of February the number of provinces infected were reduced to seven. In March one more province was declared as free from cholera and in April only the Province of Cagayan registered cases, but in the month of June, in the province of Isabela (which in the month of May only registered two cases and two deaths), a recrudescence was noted and in July, 68 cases and 60 deaths were registered. This new outbreak in Isabela was controlled in the month of September and in the month of November, only the Province of Cagayan registered cases, five in all, with four deaths. In the month of December all the provinces of this Division were completely free of the infection.

The provinces which suffered most from the infection were Cagayan, Camarines Sur, Sorsogon, Isabela, and Antique.

The infection originated in the Province of Cagayan, was in the barrio of Punta, municipality of Aparri, where almost all the inhabitants are fishermen immigrants from Ilocos. From here the infection extended to 17 municipalities of the province, the towns of Aparri, Buguey and Gonzaga, suffering the most from the epidemic.

In the municipality of Aparri, an emergency hospital for the hospitalization and treatment of cases was established and 19 cases were treated.

As a special measure for the control of the epidemic, anticholera vaccination was resorted to for the first time in this health district. Vaccination was carried out systematically in all the contacts of cases as well as in the immigrants and emigrants and other persons who voluntarily submitted to vaccination.

In the Province of Sorsogon the epidemic of cholera which was prevalent in the past three years was put under control in the month of April of the present year.

In the municipality of Casiguran, Province of Sorsogon, an emergency hospital was established, supported by the health fund of the province, with a capacity of twelve beds and conveniently equipped. A total of 31 patients, out of which 13 died, were admitted. No difficulties or obstacles of any kind were encountered on the part of the public to the hospitalization of patients, but on contrary, patients requested their admission to the hospital.

The district health officer stated that the establishment of the emergency hospital was a success, and the number of cases rapidly decreased after its establishment.

Anticholera vaccination was also performed in this province among the contacts of cholera.

In the Province of Isabela the epidemic of cholera of 1919 which seemed controlled in the month of May, reappeared on June 23 and continued until the month of September. Five municipalities were most severely infected and two emergency hospitals were established in the municipality of Echague where 40 patients were attended.

The work done by the sanitary personnel for the control of the epidemic was made more difficult than it should have been by the rainy season. The sanitary personnel often put their lives in danger when passing through overflowing rivers infested with crocodiles.

Anticholera vaccination was also employed, and the teachers of the public schools and the Insular police, gave great aid in the control of the epidemic.

In the month of January, in the municipality of Cuyo, of the Province of Palawan, an outbreak of cholera was declared, limited to three barrios of said municipality. The Central Office immediately sent two nurses and ten sanitary inspectors to aid the local sanitary personnel, bringing with them anticholera vaccine, and an intensive vaccination among the contacts and inhabitants of the barrios was carried out. By this means the outbreak was controlled at about the end of the month of February. Ninety-four cases with 58 deaths were registered and all were treated in the Hospital of Cuyo.

From the other provinces alarms were received concerning the presence of some cases of suspected cholera not followed by death, but such cases were found bacteriogically negative and therefore considered as cases of diarrhea and enteritis, food poisoning or some atypical forms of bacillary dysentery.

As was already announced in the annual report for the year 1919 the Service directed by Circular S-6, dated February 9th (see page 250 of this report), the application of anticholera vaccination as a preventive measure against cholera, but as in the month of October it was noted that no proper care was taken by the district health officers with regard to such measure, the following circular was issued:

PHILIPPINE HEALTH SERVICE.

MANILA, *October 21, 1920.*

CIRCULAR
S-68.

To all District Inspectors and District Health Officers:

It has been noted that the desire of the Philippine Health Service stated in the first paragraph of Circular S-6, dated February 7, 1920, in connection with the anticholera vaccination campaign has not been very well understood by several district health officers, because our record and the reports submitted to the Central Office show that there are some district health officers who have not requested anticholera vaccine since the month of June, others since the month of July, while others requested a very little amount only.

The attention of the district inspectors is again called to the great importance of the anticholera vaccination campaign undertaken by the Service and they are hereby instructed to require of those district health officers who have not given due attention to such an important matter the most strict responsibility.

(Sgd.) V. JESUS,
Acting Director of Health.

TABLE F.—*Tabulation showing outbreak of cholera.*

Province.	Month.													
	January.		February.		March.		April.		May.		June.		July.	
	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
Abra														
Albay	44	17	54	28	32	18	3	2	2	1				
Antique	106	73	54	31										
Bataan														
Batanes														
Batangas														
Bohol	2	1	1	1							1	1		
Bulacan														
Cagayan	17	12	25	17	106	91	191	165	17	10	34	19	19	16
Camarines Norte					1	1								
Camarines Sur	167	117	199	164	20	19	1	1						
Capiz														
Cavite	1	1												
Cebu														
Ilocos Norte														
Ilocos Sur											1			
Iloilo											1	1	1	
Isabela	9	9	46	27	16	15	5	4	2	2	18	10	68	60
Laguna											3		5	1
La Union											2	2		
Leyte														
Marinduque	16	15												
Mindoro	56	36			1	1								
Mountain Province														
Nueva Ecija														
Nueva Vizcaya														
Occidental Negros	21	20												
Oriental Negros														
Palawan	24	12	70	46										
Pampanga														
Pangasinan													8	6
Rizal														
Romblon														
Samar	54	45	2	2	13	11			10	9				
Sorsogon	106	88	75	59	9	6	5	4						
Tarlac														
Tayabas			3	3										
Zambales														
Total	622	446	529	378	198	162	205	176	31	22	60	33	109	89

TABLE F.—*Tabulation showing outbreak of cholera*—Continued.

Province.	Month.										Total.	
	August.		September.		October.		November.		December.			
	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
Abra												
Albay											135	66
Antique											160	104
Bataan												
Batanes												
Batangas												
Bohol											4	3
Bulacan												
Cagayan	42	28	19	9	7	4	5	4			482	375
Camarines Norte			2	2							3	3
Camarines Sur											387	301
Capiz												
Cavite			1	1							2	2
Cebu												
Ilocos Norte												
Ilocos Sur	1	1									2	2
Iloilo											2	
Isabela	18	13	12	8							194	148
Laguna											8	1
La Union											2	2
Leyte												
Marinduque											16	15
Mindoro											56	37
Mountain Province												
Nueva Ecija												
Nueva Vizcaya	8	6									8	6
Occidental Negros					5	5	1				27	25
Oriental Negros			1	1							1	1
Palawan											94	58
Pampanga												
Pangasinan	1	1									9	7
Rizal												
Romblon												
Samar	1	1									80	68
Sorsogon											195	157
Tarlac												
Tayabas											3	3
Zambales												
Total	63	44	35	21	12	9	6	4			1,870	1,384

Province.	Population.	Case incidence per 100,000 population.	Hospitals or isolation houses established.	Cases hospitalized.		Case fatality.		Among vaccinated.	
				C.	D.	Among hospitalized.	Not hospitalized.	C.	D.
Abra									
Albay	321,007	4.00					48.88		
Antique	152,842	102.00					65.00		
Bataan									
Batanes									
Batangas									
Bohol	361,232	1.00					75.00		
Bulacan									
Cagayan	185,602	250.00	1	19	9	47.00	79.00	14	1
Camarines Norte	51,267	7.00							
Camarines Sur	216,897	178.00	5	75	42	56.00	83.01		
Capiz									
Cavite	156,190	1.00					50.00		
Cebu									
Ilocos Norte									
Ilocos Sur	214,415	0.90					100.00		
Iloilo	501,834	4.00	1	2					
Isabela	109,363	176.00	2	40	20	50.00	83.40		
Laguna	193,984	4.00							
La Union	160,923	1.20					100.00		
Leyte									
Marinduque	57,272	28.78					45.45		
Mindoro	60,071	94.89	2	33	13	39.36	100.00		
Mountain Province									
Nueva Ecija									
Nueva Vizcaya	28,120	28.00					75.00	1	
Occidental Negros	389,593	9.00					92.59		
Oriental Negros	269,577	0.36					100.00		
Palawan	53,804	175.00	2	78	49	62.95	56.25	7	
Pampanga									
Pangasinan	561,871	1.50							
Rizal							77.00		
Romblon									
Samar	367,392	21.00					85.00		
Sorsogon	241,627	80.00	1	36	8	22.22	93.71		
Tarlac									
Tayabas	209,167	1.00					100.00		
Zambales									
Total	4,864,050	38.45	14	283	141	49.80	78.30	22	1

Smallpox (*Table F–1*).—The smallpox epidemic which broke out in the year 1918 and which at the end of the year 1919 continued in twelve provinces could be considered as eradicated in the month of June of the present year, except in the subprovince of Catanduanes, pertaining to the Province of Albay, in the provinces of Camarines Sur and Capiz, in the subprovince of Siquijor, pertaining to the Province of Oriental Negros, in the Island of Tablas, pertaining to the Province of Romblon, and in the subprovince of Masbate, pertaining to the Province of Sorsogon.

The cases were registered in the most remote barrios where vaccine virus could not arrive in good condition, but by the use of powdered dry vaccine in such places, the number of cases reported at the end of the year in the mentioned provinces were notably reduced as can be noted in Table F–1 (smallpox.)

The systematic and extensive vaccination carried on since the year 1918 continued in the present year, by the six vaccinating parties appointed in the past year and by the sanitary personnel of the health districts.

The cases were isolated, either in the patients' homes or in the emergency hospitals. Twenty-one emergency hospitals were established during the present year: One in the Province of Albay; two in the Province of Cagayan; two in the Province of Cebu; one in the Province of Iloilo; four in the Province of Oriental Negros; ten in the Province of Romblon, and one in the Province of Tayabas, in all of which a total of 607 cases were treated.

The fatality rate in the hospitals was only 16.8 per cent while outside the hospitals, the rate went up as high as 43.5 per cent.

The Constabulary soldiers helped a great deal in the proper quarantining of cases.

Dysentery (*Table F*).—Dysentery continues contributing a great deal to the total mortality in the provinces. All the provinces reported cases of said disease although the cases and mortality reported in the present year were only ¼ as large as those registered in the past year.

In the table of dysentery no distinction has been made between amœbic and bacillary dysentery, but in the opinion of the writer more than 90 per cent of cases reported as amœbic dysentery were really cases of bacillary dysentery.

TABLE F–1.—*Tabulation showing outbreak of smallpox.*

Province.	Month.													
	January.		February.		March.		April.		May.		June.		July.	
	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
Abra														
Albay	764	260	348	112	380	150	462	147	488	129	568	154	411	97
Antique	1	1	4	2	2									
Bataan														
Batanes														
Batangas	5	1	6	1	1		1	1	4	2				
Bohol	131	51	64	31	41	16	24	14	43	8	39	15	27	4
Bulacan			1											
Cagayan	19	9	50	11	32	7	5		9	1	4	1	2	
Camarines Norte	16	16	25	25	24	24	16	16	24	24	18	18	4	4
Camarines Sur	78	64	57	51	55	48	29	25	23	21	22	15	20	13
Capiz	46	17	17	10	34	19	109	94	97	65	45	34	89	67
Cavite														
Cebu	84	43	95	60	114	51	65	24	87	28	18	10	5	5
Ilocos Norte														
Ilocos Sur														
Iloilo	37	18	37	26	52	33	36	28	65	47	61	40	37	32
Isabela														
Laguna					7	2								
La Union	1	3	9	2	28	4	5	2						
Leyte	42	18	58	24	36	11	32	21	50	18	16	11	11	5
Marinduque	1													
Mindoro	24	8	62	10	10	5	35	14	18	10	28	8	5	4
Mountain Province			1								2			
Nueva Ecija	3	3							18	4	5	3		
Nueva Vizcaya														
Occidental Negros	19	5	15	8	34	9	35	20	11	5	11	2	7	5
Oriental Negros	24	9	31	12	31	2	22	5	10	3	29	5	58	4
Palawan					3	3								
Pampanga														
Pangasinan	17	6	58	7	16	4	3	1	4	2	1			
Rizal														
Romblon	42	9	77	24	88	21	41	10	19	5	12	4	8	2
Samar	133	92	147	77	79	49	89	51	76	43	58	18	17	8
Sorsogon	132	107	61	37	86	60	82	38	131	94	120	82	61	36
Tarlac	90	31	76	20	77	21	57	16	23	10	9	3		
Tayabas									2		17	9	28	11
Zambales														
Total	1,709	771	1,299	550	1,230	539	1,148	527	1,202	519	1,093	432	790	297

TABLE F-1.—*Tabulation showing outbreak of smallpox*—Continued.

Province.	Month.										Total.	
	August.		September.		October.		November.		December.			
	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
Abra	387	84	337	88	165	52	105	23	33	8	4,448	1,304
Albay											7	3
Antique												
Bataan												
Batanes											17	5
Batangas	3	4	1	1							373	144
Bohol											1	
Bulacan											121	29
Cagayan	5	5	1	1							133	133
Camarines Norte	61	18	36	27	36	9	32	6	16	1	465	298
Camarines Sur	78	63	48	36	61	68	68	67	24	24	716	564
Capiz												
Cavite	2	2					4	4	1	1	475	228
Cebu												
Ilocos Norte												
Ilocos Sur	10	6	3	1							338	231
Iloilo												
Isabela											7	2
Laguna											43	11
La Union	9	3	8	8	3	1					265	120
Leyte											1	
Marinduque	21	6	11		11	9	1		2		228	74
Mindoro											3	
Mountin Province											26	10
Nueva Ecija												
Nueva Vizcaya			2		2	2					136	56
Occidental Negros	49	3	27	3	13	4	7	1	3	2	314	53
Oriental Negros											3	3
Palawan												
Pampanga											99	20
Pangasinan												
Rizal	1		12	2	4	2	18	1	37	8	359	88
Romblon	10	4	6	3	11	5	4	2			630	352
Samar	45	19	23	8	62	31	45	18	13	7	861	537
Sorsogon											332	101
Tarlac											47	20
Tayabas												
Zambales												
Total	681	217	515	178	368	133	248	122	129	51	10,448	4,386

Province.	Population.	Case incidence per 100,000 population.	Hospitals or isolation houses established.	Cases hospitalized.		Case fatality.		Cases.				
				C.	D.	Among hospitalized.	Not hospitalized.	Adults.	Infants.	Total.	Vaccinated with positive results.	Not vaccinated.
Abra												
Albay	321,007	1,385.00	1	82	16	19.52	29.38	2,990	1,458	4,448	1,045	3,403
Antique	152,842	4.00					43.00	2	5	7		7
Bataan												
Batanes												
Batangas	342,980	4.90					29.23	(a)	(a)			
Bohol	361,232	103.00					38.60	33	340	373		373
Bulacan	248,464	.40						1		1	1	
Cagayan	185,602	65.00	2	22	2	9.00	27.00	50	71	121	21	100
Camarines Norte	51,267	307.00					100.00	17	116	133		
Camarines Sur	216,897	214.00					64.08	164	301	465		465
Capiz	285,023	243.00					76.00	(a)	(a)			
Cavite												
Cebu	858,173	52.00	2	37	8	21.60	50.20	174	301	475		475
Ilocos Norte												
Ilocos Sur												
Iloilo	501,834	67.00	1	11	6	54.54	68.34	101	237	338	35	303
Isabela												
Laguna	193,984	3.00					28.57	7		7		7
La Union	160,923	26.00					25.58	16	27	43	13	30
Leyte	601,804	44.00					45.00	124	141	265		265
Marinduque	57,272	1.70						1		1	1	
Mindoro	60,071	379.00					32.45	45	257	302		302
Mountain Province	237,390	1.26						1	2	3	1	2
Nueva Ecija	222,877	.11					38.46		26	26		
Nueva Vizcaya												
Occidental Negros	389,593	34.00					41.00	(a)	(a)			
Oriental Negros	269,577	115.49	4	111	8	7.20	22.10	176	138	314	100	214
Palawan	53,804	5.50					100.00	(a)	(a)			
Pampanga												
Pangasinan	561,871	17.00					20.20	47	52	99	14	7
Rizal												
Romblon	65,009	552.00	10	302	45	13.90	75.45	265	94	359	70	289
Samar	367,392	171.00					56.00	105	525	630		630
Sorsogon	241,676	356.00					62.30	177	468	645		645
Tarlac	169,082	196.00					30.40	167	165	332	192	140
Tayabas	209,167	22.00	1	42	17	40.47	60.00	24	23	47	4	43
Zambales												
Total	7,386,803	141.44	21	607	102	16.80	43.50	4,687	4,747	9,434	1,497	7,700

[a] Not reported.

In order to confirm or rectify the kind of dysentery reported by the health officers, the following circular was issued:

PHILIPPINE HEALTH SERVICE.

MANILA, *July 24, 1920.*

CIRCULAR }
S-51. }

To all District Inspectors and District Health Officers:

It has been noted from the weekly reports received from several provinces that cases and deaths from amœbic dysentery have been increasing since the last two weeks of last June.

Said reports reveal the fact that outbreaks of amœbic dysentery are developing at the present time in several provinces, and as amœbic dysentery usually does not appear with epidemic character, this office believes that such outbreak is certainly bacillary dysentery rather than amœbic.

This opinion is sustained by the following reasons:

First. In several provinces where cases of amœbic dysentery have been reported, there are no laboratory facilities, and in those having laboratories no bacteriological diagnosis of the type of dysentery has been made.

Second. The fatality rate reported is about 80 per cent, which is too high for amœbic dysentery.

Third. The evolution of the disease is acute while in amœbic dysentery, it is chronic.

It is requested that a careful investigation of this matter be made not only by the district healht officers, but also by the district inspectors of the health districts of inspection, directing a house-to-house inspection of the localities infected for the detection of cases, and that strict enforcement of the measures outlined in Circular Q-44, series of 1918, and in paragraph 41 of Health Bulletin No. 21, be instituted.

Attention is also called to the provisions of Circular R-37, series of 1919, and S-26, series of 1920, directing that all increases in deaths noted, especially with regard to those referring to communicable diseases, as well as the sanitary measures taken for the eradication of such diseases, be explained and commented upon by the district health officers in their weekly reports and by the districts inspectors specially or in their semimonthly reports.

It should be remembered that in the year 1919, 25,761 cases of dysentery and 18,066 deaths were registered in the provinces, and it appears that in the present year, if no efficient and early measures will be taken by the district health officers, a much greater number of cases and deaths will be registered from the same disease.

It should also be remembered that weekly reports as well as monthly reports on Provincial **Form** No. 67 are not of so much value to the Central Office as to the offices of the district inspectors and the district health officers in checking up an epidemic for which such reports are of the utmost importance.

(Sgd.) S. V. DEL ROSARIO,
Acting Director of Health.

There can be no doubt that the prevalence of dysentery is due to the same reasons that cause the prevalence of cholera, viz., the lack of proper disposal of excreta and the insufficient supply of safe water served in proportion to the total population.

TABLE F-2.—*Tabulation showing outbreak of dysentery.*

Province.	Month.											
	January.		Febuary.		March.		April.		May.		June.	
	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
Abra	3	3	...	...	2	2	...	...	...	...	5	3
Albay	207	60	145	43	146	42	47	14	75	23	129	39
Antique	17	17	15	12	8	6	15	7	7	7	34	20
Bataan	2	2	2	2	6	6	3	3	6	5	11	11
Batanes	...	...	1	...	1	...	6	...	2	...	5	...
Batangas	15	15	5	5	2	2	7	7	11	11	52	37
Bohol	1	1	...	...	...	...	1	1	2	2	1	1
Bulacan	5	3	5	4	4	3	2	2	11	5	19	12
Cagayan	15	7	11	8	20	17	21	14	11	8	15	6
Camarines Norte	3	3	...	...	2	2	1	1	1	1	...	...
Camarines Sur	26	18	28	22	37	30	27	24	31	22	24	16
Capiz	58	51	42	38	36	29	29	21	23	22	19	22
Cavite	4	3	3	3	4	2	5	3	3	3	3	3
Cebu	16	15	13	13	3	3	...	...	47	42	17	17
Ilocos Norte	...	...	...	...	...	...	...	...	...	...	8	3
Ilocos Sur	...	...	...	...	...	...	...	...	1	1	1	1
Iloilo	82	71	48	40	54	44	27	20	35	27	111	88
Isabela	8	8	4	4	1	1	6	6	3	3	8	8
Laguna	9	7	12	9	10	10	20	20	11	10	25	15
La Union	2	2	2	2	2	2	1	1	2	2	5	4
Leyte	43	30	25	24	10	9	8	7	16	12	17	16
Marinduque	24	12	1	1	2	2	1	1	4	2	11	3
Mindoro	113	45	46	19	12	9	7	7	1	1	5	3
Mountain Province	23	2	8	2	4	3	21	8	13	6	32	10
Nueve Ecija	14	14	10	8	12	2	5	5	22	4	60	39
Nueva Vizcaya	4	...	2	...	2	2	...	...	1	1	...	...
Occidental Negros	85	59	60	53	46	42	50	36	46	32	158	119
Oriental Negros	15	12	11	10	7	6	3	3	5	5	5	5
Palawan	16	4	2	...	8	8	7	2	5	3	25	16
Pampanga	4	3	5	5	4	4	14	14	18	18	18	18
Pangasinan	42	40	23	19	16	14	7	4	28	22	152	78
Rzal	8	8	5	4	7	6	10	9	6	6	30	22
Romblon	27	11	4	3	4	2	2	2	4	2	8	2
Samar	43	34	40	29	30	17	33	26	44	32	51	38
Sorsogon	78	57	57	41	60	35	22	11	40	24	37	30
Tarlac	2	2	1	1	2	2	1	1	3	3	2	2
Tayabas	65	21	25	15	22	9	29	12	14	9	33	15
Zambales	5	5	12	11	10	10	1	1	10	1	12	5
Total	1,084	645	673	450	596	383	439	293	562	377	1,148	727

TABLE F-2.—*Tabulation showing outbreak of dysentery*—Continued.

Province.	Month.									
	July.		August.		September.		October.		November.	
	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
Abra	61	30	64	27	15	6	8	6		
Albay	107	29	86	25	126	43	119	37	132	40
Antique	163	123	76	61	36	26	18	18	2	2
Bataan	28	28	22	22	7	7	4	5	5	5
Batanes	13	2	13	2	14	3	21	3	26	7
Batangas	157	146	97	92	115	98	124	87	104	68
Bohol	2	2	14	8	3	3	6	6	2	1
Bulacan	42	27	22	13	14	8	13	5	6	8
Cagayan	13	8	20	9	44	31	45	16	32	13
Camarines Norte	3	3	1	1	2	2	4	4		
Caxarines Sur	64	50	63	51	55	44	44	34	28	26
Capiz	41	33	28	28	34	32	39	36	35	28
Cavite	23	22	27	24	23	5	20	17	17	13
Cebu	44	44	26	26	11	11	22	20	20	20
Ilocos Norte	11	6	24	18	22	14	5	3		
Ilocos Sur	13	13	8	8	15	6				
Iloilo	286	169	165	128	160	127	116	91	72	56
Isabela	38	38	14	14	4	4	10	10	5	5
Laguna	54	45	36	24	35	27	20	19	33	18
La Union	71	46	40	23	40	16	20	13	7	5
Leyte	29	29	34	34	22	19	15	11	38	34
Marinduque	6	4	4	3	2	1	2	2	1	1
Mindoro	21	7	15	2	20	8	13	7	18	12
Mountain Province	85	29	72	40	18	12	13	4	12	3
Nueva Ecija	83	83	32	32	38	38	6	6	7	7
Nueva Vizcaya					1	1	1		1	1
Occidental Negros	219	173	182	124	142	88	104	64	66	58
Oriental Negros	10	10	13	13	28	20	41	25	26	21
Palawan	9	4	6	7	10	8	1			
Pampanga	134	88	66	44	34	19	27	21	8	3
Pangasinan	354	247	231	175	89	70	38	32	13	12
Rizal	54	44	46	20	19	13	8	6	14	8
Romblon	10	4	1	1					2	1
Samar	59	41	60	37	61	43	36	25	33	23
Sorsogon	62	47	42	27	20	10	36	26	14	9
Tarlac	23	23	19	19	8	8	3	3	4	4
Tayabas	54	27	28	17	19	9	19	11	37	25
Zambales	56	30	27	16	14	12	10	8	3	3
Total	2,502	1,754	1,724	1,215	1,320	892	1,031	680	823	540

Province.	Month.		Total.		Population.	Case incidence per 100,000 population.	Hospital or isolation houses established.	Cases hospitalized.		Case fatality.	
	December.										
	C.	D.	C.	D.				C.	D.	Among hospitalized.	Not hospitalized.
Abra			158	77	62,135	254.00					48.70
Albay	161	51	1,480	446	321,007	461.00					30.06
Antique	7	7	398	306	152,842	254.00					76.00
Bataan			96	95	56,168	170.90					98.00
Batanes	33	7	135	24	8,382	1,825.34					17.70
Batangas	39	31	728	599	342,980	212.00					82.28
Bohol			32	25	361,232	8.70					81.36
Bulacan	6	5	149	95	248,464	60.00					64.00
Cagayan	33	17	280	144	185.602	150.00					51.00
Camarines Norte	2	2	19	19	51,267	45.00					100.00
Camarines Sur	31	24	458	361	216,897	165.00					80.04
Capiz	35	32	419	372	285,013	147.00					89.00
Cavite	17	15	149	123	156,190	95.00					82.00
Cebu	19	19	238	230	858,173	27.00					97.40
Ilocos Norte			70	44	215,771	32.00					62.80
Ilocos Sur			38	29	214,415	17.00					76.30
Iloilo	90	62	1,246	933	501,834	248.00					74.63
Isabela	1	1	102	102	109,363	93.00					100.00
Laguna	13	9	278	213	193,984	143.00					76.62
La Union	3	2	195	118	160,923	121.00					60.51
Leyte	38	30	295	255	601,806	49.00					86.00
Marinduque	2	2	60	34	57,272	104.00					56.66
Mindoro	53	21	324	141	60,071	539.00					43.82
Mountain Province	19	10	320	129	237.390	131.20					35.70
Nueva Ecija	8	8	297	246	222,877	133.00					83.00
Nueva Vizcaya			12	5	28,120	42.00					41.60
Occidental Negros	105	70	1,263	918	389,593	353.00					68.65
Oriental Negros	13	12	177	142	269,577	53.00					80.30
Palawan	4	4	93	56	53,804	172.00					60.21
Pampanga	13	6	345	243	256,182	134.00					70.40
Pangasinan	12	10	1,005	723	561,871	177.00					71.90
Rizal	11	5	218	151	226,670	98.00					69.24
Romblon	14	2	76	30	65,009	116,00					39.47
Samar	54	39	544	384	367,392	148,00					70.00
Sorsogon	21	12	489	329	241,626	136.00					67.28
Tarlac	1	1	69	69	169,082	41.00					100.00
Tayabas	36	23	381	193	209,167	182.00					50.65
Zambales	6	6	166	108	80,325	206.00					65.00
Total	900	545	12,809	8,511	8,800,526	145.43					66.41

Every year a paroxism in the number of cases is noted in the month of July, noting that the increase in the number of cases begins in May and decreases in October. If we consider that in said months, flies are more abundant than in other months and that the majority of the municipalities have not enforced ordinances for the sanitary disposal of manure and refuse, we might conclude that this factor, together with the others already mentioned, notably contribute to the recrudescence of the dysentery registered every year in the provinces.

No special sanitary measures were reported as having been enforced for the control of the epidemic. Its reduction should rather be attributed to natural causes than to the sanitary measures taken.

Typhoid fever (*Table F-3*).—With a view to make a study of the presence and march of typhoid fever in the provinces, a tabulation similar to that prepared for the monthly course of cholera, dysentery and smallpox has also been prepared in the present year for typhoid fever.

It having been observed that the paroxism of typhoid fever which happened in the same month as that of dysentery, and looking on the table of typhoid, we can see that the course of typhoid fever has run parallel to the course of dysentery.

This fact should not be considered as peculiar because we know that the same causes that originated the prevalence of dysentery in the provinces are applicable to typhoid fever.

As can also be seen in the table of typhoid fever, many provinces reported the same number of cases as deaths from typhoid fever, and in other provinces the fatality is so high that it may be deduced that more than 90 per cent of the cases reported were only discovered when the patient was already dying.

Some district health officers took sanitary measures for the control of the outbreaks registered, but gave little attention to this matter.

The incidence and fatality rate registered has been more or less uniform in all the provinces. The appearance of the epidemic seems to have no definite predisposition as to time, but as already has been mentioned the incidence was the greatest in the months in which flies are more abundant.

The main sanitary measures taken for the control of the outbreaks of this malady were a more careful supervision of the handling of foods in the markets, the establishment, as far as possible, of sanitary collection and destruction of manure, refuse and garbage, and the destruction of breading places of flies.

TABLE F-3.—*Tabulation showing outbreak of typhoid fever.*

Province.	Month.											
	January.		February.		March.		April.		May.		June.	
	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
Abra	3	3	4	4	2	2					2	2
Albay	15	3	30	6	20	4	22	4	5	1	61	11
Antique	8	8	10	10	5	5	5	5	4	4	2	2
Bataan	2	2	1	1	2	2	6	6	4	4	8	8
Batanes												
Batangas	6	6	6	6	4	4	5	5	3	3	10	10
Bohol			2	2								
Bulacan	13	10	13	11	13	12	13	11	20	19	21	12
Cagayan			2	1	5	2	1	1	4	2	2	2
Camarines Norte	1	1			4	4	5	5	4	4	3	3
Camarines Sur			5	4	3	1	10	9	7	7	6	5
Capiz	16	13	6	6	10	8	16	14	10	9	13	12
Cavite	7	5	2	2	3	3	3	2	6	6	9	8
Cebu	5	2	1	1	2	2	2	2	17	17	6	6
Ilocos Norte			8	6	2	1	2	2	2	2	1	1
Ilocos Sur			2	2	2	2	1	1			3	3
Iloilo	11	5	9	5	7	6	15	8	5	4	7	3
Isabela												
Laguna	4	4	3	3	3	3	5	4	5	4	5	3
La Union	1	1			11	8	7	6	10	8		
Leyte	13	12	8	8	10	9	8	6	14	14	19	19
Marinduque			2	2			1	1	1	1	2	2
Mindoro			1	2	4	3	7	6	4	3	1	1
Mountain Province	7	3	11	6	5	2	8	5	10	7	3	2
Nueva Ecija	28	26	11	8	21	21	7	7	11	11	16	12
Nueva Vizcaya												
Occidental Negros											11	9
Oriental Negros	2	1	2	1	1	1			2	2	2	2
Palawan	2	2							1	1		
Pampanga	8	8	12	12	9	9	11	11	11	11	13	12
Pangasinan	9	7	6	5	10	10	7	7	13	11	18	17
Rizal	4	4	2	2	13	9	10	7	10	9	14	10
Romblon	5	1					14	3	22	10	13	9
Samar	7	7	5	4	1	1	6	6	11	11	3	3
Sorsogon	6	3	20	19	18	12	16	8	13	10	7	4
Tarlac	8	8	11	11	15	15	16	16	15	15	11	11
Tayabas	9	9	13	6	8	7	14	13	6	5	5	5
Zambales	7	4	5	5	4	4	6	3	7	2	6	3
Total	207	158	213	161	217	172	249	184	257	217	303	212

TABLE F-3.—*Tabulation showing outbreak of typhoid fever*—Continued.

Province.	Month.											
	July.		August.		September.		October.		November.		December.	
	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
Abra	3	3	4	2	2	2	4	4	1	1	1	1
Albay	16	5	21	6	21	5	9	3	9	2	15	4
Antique	12	12	6	6	5	5	2	2	1	1	....	....
Bataan	6	6	4	4	1	1	4	4	3	3	3	3
Batanes	....	....	....	....	....	....	....	....	....	....	....	....
Batangas	1	1	4	4	8	8	5	5	8	8	4	4
Bohol	....	....	1	1	....	....	....	....	3	3	1	1
Bulacan	26	20	32	20	31	22	37	22	17	17	11	15
Cagayan	10	4	4	2	....	....	....	....	1	1	3	3
Camarines Norte	4	4	3	3	2	2	....	....	6	6	....	....
Camarines Sur	3	3	5	5	4	4	4	4	5	5	3	3
Capiz	18	13	4	4	8	8	28	26	9	9	15	15
Cavite	3	3	6	6	9	8	7	7	1	1	....	....
Cebu	4	4	3	3	1	1	4	4	2	2	1	1
Ilocos Norte	1	1	2	2	....	....	1	1	....	....	....	....
Ilocos Sur	3	3	5	5	1	1	1	1	1	1	3	3
Iloilo	2	1	13	8	23	13	17	10	17	9	13	6
Isabela	....	....	....	....	....	....	....	....	....	....	....	....
Laguna	2	2	9	6	3	2	3	3	11	9	6	4
La Union	16	11	7	7	8	5	5	2	3	3	4	4
Leyte	19	19	18	18	7	7	8	8	6	6	3	3
Marinduque	....	....	2	1	....	....	....	....	....	....	....	....
Mindoro	9	8	1	1	6	6	6	6	....	....	4	4
Mountain Province	4	4	1	1	12	6	7	7	8	8	2	1
Nueva Ecija	13	13	18	18	17	17	10	7	7	7	11	11
Nueva Vizcaya	....	....	....	....	....	....	....	....	....	....	....	....
Occidental Negros	5	4	5	5	7	7	7	7	2	2	7	6
Oriental Negros	....	....	2	2	4	4	2	2	1	1	3	3
Palawan	....	....	....	....	1	1	1	1	....	....	1	1
Pampanga	23	19	25	15	18	11	17	13	16	13	15	12
Pangasinan	12	12	26	22	28	21	35	25	32	21	10	10
Rizal	15	13	8	7	18	13	8	7	9	7	10	9
Romblon	10	1	3	3	1	1	16	2	25	2	15	2
Samar	8	5	4	3	2	2	11	8	1	1	4	4
Sorsogon	20	15	26	20	7	5	16	13	8	7	8	5
Tarlac	29	29	21	21	24	24	12	12	19	16	6	6
Tayabas	10	9	9	8	4	4	5	4	4	3	8	7
Zambales	1	....	3	3	3	3	1	1	....	....	3	3
Total	308	247	305	242	286	219	293	221	236	175	193	154

Province.	Total.		Population.	Case incidence per 100,000 population.	Hospitals or isolation houses established.	Cases hospitalized.		Case fatality.		Among vaccinated.	
	C.	D.				C.	D.	Among hospitalized.	Not hospitalized.	C.	D.
Abra	26	24	62,135	41.00					92.30		
Albay	244	54	321,007	7.00					22.13		
Antique	60	60	152,842	38.00					100.00		
Bataan	44	44	56,168	78.00					100.00		
Batanes											
Batangas	64	64	342,980	18.00					100.00		
Bohol	7	7	361,232	1.00					100.00		
Bulacan	247	191	248,464	99.00					77.32		
Cagayan	32	18	185,602	17.00					50.00		
Camarines Norte	32	32	51,267	83.00					100.00		
Camarines Sur	55	50	216,997	23.00	1	7	2	28.57	91.50		
Capiz	153	137	285,013	55.00					85.00		
Cavite	56	51	156,190	36.00					91.00		
Cebu	58	45	858,173	5.00	1	1	1	100.00	93.30		
Ilocos Norte	19	16	215,771	8.00					84.21		
Ilocos Sur	22	22	214,415	10.00					100.00		
Iloilo	139	78	501,834	27.00	1	11	6	54.00	56.05		
Isabela											
Laguna	59	47	193,984	30.00					79.66		
La Union	72	55	160,923	34.00					76.38		
Leyte	133	129	601,806	22.00					97.00		
Marinduque	8	7	57,272	13.00					87.50		
Mindoro	43	40	60,071	71.00					93.02		
Mountain Province	78	52	237,390	31.57					67.53		
Nueva Ecija	170	158	222,877	76.00					92.94		
Nueva Vizcaya											
Occidental Negros	44	40	389,593	21.00					87.80		
Oriental Negros	21	19	269,577	7.04					90.50		
Palawan	6	6	53,804	11.00					100.00		
Pampanga	178	146	256,182	68.00					82.02		
Pangasinan	206	168	561,871	36.00					81.50		
Rizal	121	97	226,670	54.00					80.16		
Romblon	124	34	65,009	190.00	1	50	9	18.00	33.78		
Samar	63	55	367,392	17.00					87.00		
Sorsogon	165	121	241,676	68.00					74.29		
Tarlac	187	184	169,082	111.00					98.30		
Tayabas	95	80	209,167	45.00		4	4	100.00	83.51		
Zambales	46	31	80,325	57.00					67.00		
Total	3,067	2,362	8,654,661	35.44	4	73	22	31.14	78.16		

The people were instructed to use artesian or boiled water for drinking purposes, to pasteurize all milk, and especially to adopt a proper sewage disposal.

The laboratory was used for the location of carriers and patients and all carriers found were given proper medical attendance. Antityphoid vaccine was applied to contacts and to all persons that requested it.

The Province of Bulacan is a neighboring province of Manila and as a great quantity of the milk consumed in the capital comes from this province, and in order to ascertain whether the cases of typhoid fever registered in Manila might owe their origin to such milk sold in the capital, a supervision of the owners of carabaos was ordered in the month of October.

Five hundred fifty-one owners of carabaos were inspected for the purpose of locating typhoid patients and carriers. Of this number, 78 persons were found to be sellers of milk in Manila, and of these 78 persons, seven were found to have in their houses persons suffering from typhoid fever. The suspension of delivery of milk to Manila from these infected families was immediately directed and enforced.

The belief of some people that typhoid fever is not communicable and the prejudice to and disregard of the application of the necessary preventive measures, indulging themselves in the habit of visiting typhoid patients and even working in houses of relatives suffering from typhoid fever, makes the control of this disease difficult. Only the educational campaign already undertaken by the Service to impress on the minds of the simple people the most rudimentary rules of sanitation may free them from this prejudice, not only in regard to typhoid fever, but also in regard to all other communicable diseases.

RABIES.

The statistics on rabies show the number of persons bitten by suspected rabid dogs during the year. The number of persons bitten in the present year is 45 more than those bitten in the past year and 15 persons more died of rabies in the present year than in the past year.

Antirabic serum was applied in the present year to 67 per cent of the persons bitten while antirabic serum was applied to only 43 per cent in the past year. Also the fatality rate of the persons to whom antirabic serum was administered is less in the present year than in the past year. Sixteen per cent is the fatality rate in 1920 as against 26 per cent in 1919.

TABLE G.—*Rabies.*

Province.	Number of persons bitten.		Number of persons died.		Number of persons to whom antirabic serums have been administered.			
					1919		1920	
	1919	1920	1919	1920	C.	D.	C.	D.
Abra	1	1	1		1	1	1	
Albay	13	9	5	4	1		7	2
Antique		1					1	
Bataan	5		1			3		
Batanes								
Batangas	1	11	1	3			11	3
Bohol		7		2			5	
Bulacan	19	25	8	5	18	17	16	1
Cagayan		7	1	4			4	1
Camarines Norte								
Camarines Sur	5	5	2	2	3		2	
Capiz								
Cavite	1	1	1	1				
Cebu	10	18	2		9		8	
Ilocos Norte	26	23		2	5		23	2
Ilocos Sur		13		5			6	1
Iloilo	31	10	12	3			5	1
Isabela	4	5	4	3				
Laguna	2	19		4	2		13	
La Union	6	20	1	2	4	1	11	
Leyte	2	1	1	1				
Marinduque		1		1				
Mindoro								
Mountain Province	1	4		2			2	
Nueva Ecija	5	29	5	12	5	5	14	7
Nueva Vizcaya	1	1		1				
Occidental Negros	1	15	1	4				
Oriental Negros	2	5		2	2		5	2
Palawan		1						
Pampanga	5	2		1	6		2	1
Pangasinan	33	22	14	11	19		11	
Rizal	26	3	3	3	5		3	3
Romblon								
Samar	5	9	3	4	3	1	2	1
Sorsogon	5	2	5	2			2	
Tarlac	23	6	1	3	18		6	2
Tayabas	18	19	2	2	6		8	
Zambales	2	3	1	1	2	1	3	1
Zambales	2	3	1	1	2	1	3	1
Total	253	298	75	90	109	29	171	28

Many times the antirabic serum cannot be applied at the time the person is bitten because the case is not brought to the knowledge of the sanitary personnel, or the case is reported too late, or because the patients themselves rejected the treatment, and at other times patients are reported as already dead.

The municipal ordinance enforcing the muzzling of dogs is not duly complied with and many dogs can be seen running loose without muzzles on provincial roads.

Poisoning stray dogs with strychnine has been resorted to as in the past year, and over 10,000 stray dogs were poisoned during the present year; but, although every year over one hundred thousand dogs are killed, it will be many years before a complete extermination of all stray dogs in the provinces can be accomplished.

LEPROSY.

The number of lepers captured in the present year is 173 more than those captured in the past year and 96 more than these captured in 1918. The slight increase in the number of lepers captured, which has been noted in the present year, is due to the more extensive campaign undertaken for the apprehension of lepers yet scattered throughout some of the provinces.

TABLE H.—*Leprosy.*

Province.	Number of lepers collected.			Number of lepers died in the detention houses.			Number of lepers sent to Culion.		
	1920	1919	1918	1920	1919	1918	1920	1919	1918
Abra	3	3	1	......	......	......	......	3	......
Albay	62	4	54	5	......	......	50	4	54
Antique	8	3	9	......	......	1	4	3	7
Bataan	6	3	......	......	......	......	6	3	......
Batanes	2	......	......	......	......	......	2	......	......
Batangas	12	5	12	1	1	......	7	4	12
Bohol	18	13	8	......	1	......	18	12	8
Bulacan	19	16	13	......	......	......	19	16	13
Cagayan	43	34	37	3	......	1	38	33	36
Camarines Norte	......	......	......	......	......	......	......	......	......
Camarines Sur	21	27	......	1	1	......	20	22	......
Capiz	20	24	54	......	1	1	20	23	53
Cavite	9	23	......	......	......	......	9	20	......
Cebu	196	193	296	3	5	16	191	188	267
Ilocos Norte	7	3	1	......	1	......	......	3	......
Ilocos Sur	7	23	5	......	......	......	7	14	3
Iloilo	53	32	36	6	6	......	39	26	36
Isabela	3	2	......	......	......	......	......	2	......
Laguna	9	9	5	1	1	......	8	8	5
La Union	20	6	3	......	......	......	16	6	3
Leyte	75	13	12	5	1	2	16	5	8
Marinduque	2	......	......	......	......	......	......	......	......
Mindoro	5	11	7	2	2	1	......	1	4
Mountain Province	5	8	......	......	......	......	5	8	......
Nueva Ecija	20	17	10	......	6	2	20	11	8
Nueva Vizcaya	2	......	......	......	......	......	......	......	......
Occidental Negros	11	14	18	......	2	1	11	12	12
Oriental Negros	10	7	7	1	......	1	5	7	6
Palawan	1	2	......	......	......	......	1	2	......
Pampanga	3	7	4	......	......	......	3	7	4
Pangasinan	8	9	14	......	......	......	8	8	14
Rizal	33	22	12	1	......	......	32	22	12
Romblon	1	11	......	......	1	......	......	8	......
Samar	22	29	20	4	1	......	18	28	18
Sorsogon	33	10	15	2	......	......	24	10	15
Tarlac	5	4	10	1	......	......	4	4	10
Tayabas	15	3	5	1	......	......	12	3	2
Zambales	1	7	6	......	......	......	1	7	6
Total	770	597	674	37	30	26	614	533	616

TABLE H.—*Leprosy*—Continued.

Province.	Number of lepers escaped from the detention houses.			Number of lepers recaptured.		
	1920	1919	1918	1920	1919	1918
Abra						
Albay	7			4		
Antique	4	1		3		2
Bataan						
Batanes				2		
Batangas	4			1		
Bohol						
Bulacan						
Cagayan	2	1				
Camarines Norte						
Camarines Sur		4		2		
Capiz						
Cavite		3				
Cebu	2		13	1		4
Ilocos Norte						
Ilocos Sur						
Iloilo						
Isabela	1					
Laguna						
La Union				1		
Leyte	2	5	2	2		
Marinduque						
Mindoro	1	5	1		1	
Mountain Province				3		
Nueva Ecija						
Nueva Vizcaya						
Occidental Negros			5			
Oriental Negros						
Palawan			1		1	
Pampanga						
Pangasinan		1			1	2
Rizal				1	7	4
Romblon	1			1		
Samar			2			
Sorsogon	7			12		
Tarlac				1		
Tayabas	2		3			
Zambales						
Total	33	20	27	34	10	12

The Province of Cebu may be considered as a base in the study of the results obtained in the eradications of leprosy by means of the compulsory reclusion of lepers in a colony, because it is the only province in which special and trained personnel is exclusively devoted to the capture of lepers, and therefore the collection of lepers in this province is more complete. Now, from the study of the table of statistics on leprosy, it appears that the decrease in the number of lepers in said province that was observed in the past year, continued in the present year.

Great efforts were made this year towards accomplishing the segregation of all lepers scattered throughout the provinces. The collecting of lepers is accomplished in more than 90 per cent of cases by force. Occasionally persuassion was effective, and in few instances lepers were induced to voluntarily present themselves.

The district health officers of Cebu, request in his annual report that lepers concentrated in the leper detention hospital in his province be submitted to the new treatment preconized to cure leprosy while the patients are awaiting transportation for Culion. In this hospital are concentrated not only the lepers captured in the Province of Cebu, who constitute 25 per cent of the total lepers captured in all the provinces, but also those proceeding from the provinces of Bohol, Oriental Negros, and the western part of the Province of Leyte. The district health officer's request follows:

> In this connection it may be stated positively that the Service can increase the number of lepers that present themselves voluntarily to the extent of probably reversing the ratio of captured lepers and those who voluntarily present themselves, if the new treatment is carried out at the detention hospital at Carreta, Cebu, while the patients are awaiting the boat that will finally deliver them at Culion. It is believed that the district health officer can undertake such work without any or much additional personnel, and the Government will no doubt derive some benefit, besides lessening the suffering of the detained lepers from worry, hopelessness, and moral physical pain.
>
> The following facts and anticipated results may be enumerated to justify the foregoing lines:
>
> (*a*) About two-thirds of the population of Culion is from Cebu and many others from the other Visayan Islands and Mindanao.
>
> (*b*) Lepers from Cebu, Oriental Negros, Bohol, and occasionally from the provinces of northern Mindanao and the western part of the Province of Leyte, are sent to the Carreta detention hospital; such people being confined there for about four to six months before the leper boat arrives.
>
> (*c*) On every collection trip about 100 lepers are collected at Cebu by the leper boat, such lepers having been fed and maintained for months by the Government without having advanced a step towards their final release, without a view to save a cent, and without granting a bit of joy in the form of hope to those unfortunate beings who see in the Island of Culion not their salvation, but their grave, because they believe that they will never again see their birth-place.
>
> (*d*) This office may train enough of its present personnel to do the routine treatment under direct supervision.
>
> (*e*) The great number of lepers existing in this province and in the neighboring ones, justifies at least the initiation of the treatment while the lepers are confined in the detention hospital, which would mean a saving of several thousand pesos in food for maintenance, capture, and transportation of lepers, etc., for the Government and several months of useless waiting for the leper patients.
>
> (*f*) The effect of carrying out the treatment in this locality, will serve as a propaganda for attracting the numerous lepers still hiding in caves, mountains, forests and other inaccessible places, and will induce them to volunteer to present themselves for confinement until their final release, when they may be convinced of its feasibility by the quick results from the new treatment. Then the detention hospital of Cebu and the Island of Culion will not be looked upon as their burial places or prisons for the rest of their lives.

The lepers captured, as has already been stated in last year's report, are delivered to the municipal or provincial authorities for safe keeping until the boat or other means of transportation assigned for the periodical collection of lepers arrive, and in order that lepers in the detention houses may be properly treated, the following circular was issued by the Chief, Executive Bureau, at the request of this office:

PHILIPPINE HEALTH SERVICE.

MANILA, *February 3, 1920.*

CIRCULAR }
S-5. }

To all District Health Officers, Presidents of Sanitary Division, and other officers concerned:

The attention of health officers and sanitary employees of the Philippine Health Service is hereby invited to the following unnumbered provincial circular, dated January 10, 1920, of the Chief of the Executive Bureau, on the subject "Isolation of Lepers," for their information and guidance:

"It has come to the notice of this office that in some provinces, lepers awaiting transportation to Culion Leper Colony or to the San Lazaro Hospital are housed in insanitary cells in provincial jails. It should be borne in mind that lepers are not convicts undergoing punishment, but unfortunate persons deserving of commiseration. It is therefore requested that, when lepers are apprehended and sent to the provincial capital or to other concentration points for transportation to the said Colony or hospital, they be detained in apartments kept in sanitary condition. In case the provincial or municipal jail cannot be used for this purpose, then at the places of concentrations, small nipa houses shall be built exclusively for the lepers. Whether they are detained in the jail or in other places, the women should be given apartments separate from those assigned for the men. However, boys less than twelve years old may be allowed to be with the women. The construction of such houses, it is believed, would not involve any great expenditure, and any sacrifice on the part of the province will be more than compensated by the comfort which these unfortunate persons might enjoy.

"Provincial treasurers will transmit the contents of this circular to the municipalities in accordance with the provisions of Provincial Circular No. 5."

V. JESUS,
Acting Director of Health.

The most remote provinces in which no frequent collections of lepers cannot be made have built isolation houses in which the patients are confined until the boat destined for their collection arrives, and in these isolation houses, the patients receive routinary treatment. Houses for such purposes were built in the present year in the provinces of Cagayan, La Union, Pangasinan, Nueva Ecija, Tayabas, Iloilo and Samar, as a result of the circular above transcribed.

With reference to the provincial hospital for isolation of lepers at Cebu, the district health officer of said province reported the following:

The hospital, open throughout the year, is in a fairly good condition and capable of holding about one hundred and fifty patients. But there are some disagreeable facts to be mentioned:

(*a*) Part of the building now actually condemned should be repaired to increase its capacity; the roof of the occupied part also leaks in many places.

(*b*) The waste water that comes from the inside, undoubtedly contaminated, drains to the ground behind the hospital and beach, where many people pass daily stepping up on such infected ground.

(*c*) The sewage disposal is accomplished by the pail system.

(*d*) The water supply comes from the Chinese Hospital, located about one hundred meters from the detention hospital. There is a spring approximately three hundred meters from this hospital where the water is obtained when the tide is low, but at high tide this is not possible because during high tide, the sea water backs up and covers the spring. In either case there is a great menace to the population in general. In the first case, the attendants of the lepers, who go and fetch the water from the Chinese Hospital with infected buckets expose the inmates in the latter building, and with their hands, many times neglected to be disinfected on account of their lack of scientific knowledge of infection, open the faucet of the city water works system and probably even at times touch the mouth of the faucet. When the key of the Osmeña Tank is closed, a negative pressure ensues inside the pipes and suction of the germs that may have been left at the mouth of the faucet by the attendant who went to get water for the lepers mix with the water inside the pipes and through such medium spread the infection to all parts of the city. On the other hand when the water is obtained from the spring at the beach, the danger is just as great, because same is accessible to the numerous people who do their washing, drinking, and general cleaning at said place.

(*e*) The Constabulary guard-house was blown down by a typhoon last October, and as a result the living conditions of the guards are deplorable; they live under the blown-down roof, dark, unventilated, on damp ground, and there they sleep and even do their cooking. They are not given tents because they do not get supplies from Manila. Their officers threaten to remove their soldiers from that place, which is made almost their permanent residence because the hospital is open all the year round, unless adequate shelter is provided them, and thus would leave the leper detention hospital without a guard.

(*f*) The area occupied by the grounds does not have monuments to serve as landmarks. There is plenty of bamboo on the hospital ground which could be used to advantage by the Government; but the neighbors forbade the use of any of it on the ground that it is not known where the real boundaries of the land are and the bamboo may really belong to them.

Some of these difficulties have been partially solved and others remain to be settled more or less urgently as follows:

(*1*) The importance of repairing the building so as to lodge more lepers in the coming possibility of voluntary presentation in great numbers, if the new treatment is begun at the hospital, leakage in the used part should be repaired promptly. It is believed that it will be more economical to collect a large number of lepers before shipping them to Culion than to send the leper boat oftener with small collections of lepers.

(*2*) The waste water draining from the inside could be partially remedied by digging a ditch at the place where the water comes out and collecting it in a vault. But when the inmates become numerous, the ditch would become so saturated that absorption would be slow and the ditch would finally overflow and infect the surrounding area.

(*3*) The sewage, although now buried, should be disposed of by the construction of a septic tank which would probably be more hygienic and less dangerous to others.

(*4*) To remedy the water supply there is but one way, and that is the drilling of an artesian well. The district engineer's office promises to undertake the work and the municipality of Cebu will make application for its construction chargeable to its funds, provided that one-third of the cost which the City of Cebu will have to pay, will be reimbursed to it by the Philippine Health Service. If the work is undertaken by the Philippine Health Service, the total cost will probably be paid by it.

(*5*) The repairing of the guard-house needs immediate attention.

(*6*) If the Bureau of Lands is requested to place the monuments on the ground, the Service could make use of the bamboo, the ownership of which is claimed by the neighbors.

As a probable cause of the prevalence of leprosy in said province, the district health officer made the following explanation:

As the probable cause of the prevalence of leprosy in the Province of Cebu, the following explanation may be given: Nearly a century ago the actual hospital at Carreta was constructed not for the purpose of isolation, but to give shelter to these wandering beings from a purely charitable viewpoint. The lepers, of course, took advantage of such an opportunity of finding a free home and food and many of those who knew about it soon came to the city. They were, however, allowed to go out and many of them went on the streets of the city undisturbed to ask for alms. Another factor that attracted these sick people to Cebu, is the fame of the miraculous powers of the Holy Child venerated at St. Augustin's church. During the nine days of prayers every year that were celebrated in His honor, the city was crowded by people from all parts. The patients associated freely with them; they were not avoided. Over a table the saint is placed. The cloth that covers the table is kissed one after another by the thousands that gathered at the place where the Magellan Cross is located at one of the most conspicuous spots in the city.

Inasmuch as isolation was not compulsory, these people were naturally at times tired of hospital life and preferred to live outside, associated with healthy ones and even went to the extent of raising a family. In the course of years some emigrated to the remote parts of the island, making a new focus of infection in such places. At any event, records in this office show that since the capturing of lepers began, most of those that were confined came from the City of Cebu, Talisay, Opon, Mandawe, i. e., within a radius of twenty kilometers from the city.

The theory of the origin of the infection from fish may, of course, be taken as another cause for this generalization, because there is the coincidence that the town where most of the cases were captured are dedicated to fishing. It is believed, however, that it is not the most logical, because other towns are also engaged in such industry and also eat raw fish, but have not registered proportionately the same number of cases. It is not denied that they may have contributed in some way when eaten raw in the form of what the natives call "guinamus" or "bagoong" in tagalog, because fish in this particular locality where patients are more numerous may have eaten contaminated waste material and had been the cause of an infection to healthy people eating raw fish.

Based on information obtained from various sources it is fairly safe to estimate that not less than six hundred still remain hiding in the province. Fortunately, the people in general understand the seriousness of the affection and try to avoid contact with the poor sufferers, and hence these people isolate themselves and live in caves, mountains, and other isolated places.

The district health officer of Batangas submitted the following statement with reference to the same matter, as follows:

> So far as to the causes of the prevalence of this disease in this district are concerned, nothing new has been found worth mentioning, except the following facts observed in the incidence of the malady among members of a well-known family residing at Batangas, Batangas:
>
> (*a*) Father and two sons were found affected with leprosy. Father died while at Batangas; sons already transferred to Culion.
>
> (*b*) Two servants of the family were likewise found affected with leprosy and transferred to Culion.
>
> (*c*) The first case to develop among above positive cases was that of the father followed by the sons and servants, respectively.
>
> (*d*) The striking feature in this connection is the fact that the mother who is of fair complexion, and all other offspring of the same hue, have remained free from infection up to this date, while the father and two sons were all of dark pigmentation. The fair members of the family show, however, strong susceptibility to tuberculosis.
>
> The point at issue then would be to find the relation that complexion bears with the incidence of the disease in any given group of persons or family, and why, under the circumstances, should tuberculosis show preference for those of fair pigmentation, leaving the dark ones to leprosy.

The truth is that neither our actual scientific knowledge nor investigations permit us to submit any conclusion with reference to this matter.

VACCINATION.

This is the first year in the history of the Bureau that vaccination against cholera and typhoid fever has been extensively and systematically undertaken in the provinces. For better discussion of this matter, this chapter is divided into three parts: (*a*) anticholera vaccination; (*b*) antityphoid vaccination, and (*c*) vaccination against smallpox.

TABLE I.—*Anticholera vaccination performed during the year.*

Province.	Number of persons vaccinated.								Number that have shown reaction.	
	Males.				Females.				Second injection.	
	Double injection.		Total injection.		Double injection.		Total injection.		Males.	
	Adults.	Children.	Adults.	Children.	Adults.	Children.	Adults.	Children	Adults.	Children.
Abra			471	780			130	476		
Albay			8,207	2,346			4,483	2,010		
Antique	10	9	1,608	1,619	1	16	843	1,397	2	8
Bataan			395	331			404	233		
Batanes										
Batangas			74	35			40	33	4	
Bohol	7		998	389			508	474		
Bulacan			5,686	8,068			6,291	8,205		
Cagayan	420	93	9,747	4,971	358	119	6,428	4,337	155	29
Camarines Norte										
Camarines Sur			1,968	40			1,092	55		
Capiz	83	11	1,054	247	1		383	139	83	11
Cavite	1		88	4		1	29	3		
Cebu	112	48	688	120	33	14	424	94	42	
Ilocos Norte	164	2	1,084	479	111	5	549	479	61	1
Ilocos Sur	39	14	1,900	283	114	14	852	186		
Iloilo			2,538	1,816			1,963	1,822		
Isabela	20	7	2,314	1,869	11	11	1,885	1,516	48	70
Laguna			430	132			325	239		
La Union	98	9	5,342	2,227	65	62	3,654	1,709		
Leyte	67		279	12	19		87	17	4	
Marinduque			736	822			459	630		
Mindoro			1,231	270			653	218		
Mountain Province			2,101	2,060			1,562	1,769	10	13
Nueva Ecija	5	1	1,657	1,064	5		547	865		
Nueva Vizcaya			135	51			90	66		
Occidental Negros										
Oriental Negros	120	42	619	595	70	55	435	466	67	39
Palawan			187	50			121	44		
Pampanga	144	52	801	654	146	66	766	474	35	17
Pangasinan			6,238	5,060			4,590	5,211		
Rizal	9	4	2,872	1,070	2	2	1,587	481	5	3
Romblon			498	366			159	283		
Samar	54		104		30		48			
Sorsogon			1,259	723			478	506	1	
Tarlac			859	428			698	378		
Tayabas			2,442	324			1,254	311		
Zambales			334	171			206	118		
Total	1,353	292	66,944	39,476	966	365	44,023	35,244	517	191

TABLE I.—*Anticholera vaccination performed during the year*—Continued.

Province.	Number that have shown reaction.										Ratio per cent of vaccinated persons to total population.	Ratio per cent of unvaccinated persons to total population.
	Males.				Females.							
	First injection.		Both injection.		Second injection.		First injection.		Both injection.			
	Adults.	Children.	Adults.	Children.	Adults.	Children.	Adults.	Children.	Adults.	Children.		
Abra	24	18					38	27			2.99	97.01
Albay	2,335	432					988	405			5.31	94.69
Antique	1,152	1,142	1	1	1	13	664	879			3.51	96.49
Bataan	267	255					258	199			2.43	97.57
Batanes												
Batangas	45	23					29	17			0.01	99.99
Bohol	552	271					295	372			0.63	99.37
Bulacan	2,000	3,638					2,143	5,183			11.33	88.67
Cagayan	3,399	2,067	452	196	158	21	2,332	1,280	242	10	13.73	86.27
Camarines Norte												
Camarines Sur	1,968	40					1,092	55			1.45	98.55
Capiz	598	108					254	74			0.64	99.36
Cavite	52	4					20	3			0.07	99.93
Cebu	293	41	52		37		203	25	26		0.15	99.85
Ilocos Norte	819	245			3	1	439	180			1.20	98.80
Ilocos Sur	30						18	10			1.50	98.50
Iloilo	2,107	1,482					1,690	1,477			1.62	98.38
Isabela	1,997	1,272	4	1	10	8	1,997	1,272			6.93	93.07
Laguna	341	107					247	146			0.58	99.42
La Union	1,992	1,199	9	12	1	1	1,162	827			8.04	91.96
Leyte	132	11	12		13		65	16	11		0.07	99.93
Marinduque	436	567					288	419			4.62	95.38
Mindoro	137	37					76	47			3.95	96.05
Mountain Province							17	19			3.16	96.84
Nueva Ecija	1,030	612					382	587			1.85	98.15
Nueva Vizcaya	111	45					74	59			1.22	98.78
Occidental Negros												
Oriental Negros	152	78	100	29	51	49	101	60	53	41	0.78	99.22
Palawan	106	30					88	32			0.75	99.25

Pampanga	288	213	35	14	25	14	229	114	5	5	0.05	99.95
Pangasinan	741	636	......	......	......	......	663	633	......	......	3.76	96.24
Rizal	874	419	3	1	......	......	511	167	......	4	2.65	27.35
Romblon	365	358	......	......	......	......	96	279	......	......	2.01	97.99
Samar	102	......	......	......	......	......	43	......	......	......	0.04	99.96
Sorsogon	256	319	......	......	......	......	......	......	......	......	1.23	98.77
Tarlac	593	307	......	......	......	......	480	276	......	......	1.40	98.60
Tayabas	56	......	......	......	......	......	8	......	......	......	2.07	97.93
Zambales	334	171	......	......	......	......	206	118	......	......	1.03	98.97
Total	25,684	16,147	668	264	299	107	17,196	15,257	337	60	2.11	97.89

(A) *Anticholera vaccination.*—Anticholera vaccination was directed in February of the present year with the preliminary instructions given in the following circular:

PHILIPPINE HEALTH SERVICE.

MANILA, *February 9, 1920.*

CIRCULAR }
S–6. }

To Chiefs of Divisions, District Health Officers, Presidents of Sanitary Divisions, and others concerned:

Anticholera vaccine has been used with success among the armies in the Balkan War, and is also used at present in Java and Indo-China with satisfactory results. It is the desire of the Philippine Health Service to undertake the vaccination of the people of the Philippine Islands against cholera. Anticholera vaccination, however, will not be made compulsory unless otherwise directed by the Director of Health, but it should be practiced as extensively as possible, especially in those places where cholera is endemic, always with a view to a constant and increasing use every year.

The following is an excerpt of the findings of the Service Committee on Anticholera Vaccination.

(1) Cholera vaccine produces less reaction than that of typhoid.

(2) The second injection appears to produce lesser reaction than the first one.

(3) The preparation to be used should be a vaccine, of dead bacteria killed at 60° C. for one-half hour and carbolized. It should contain 1,000 millions per cc.

(4) The dose for healthy adults in the Philippines should be 1,000 millions.

(5) One injection should be given in case of field vaccination on a large scale. If practicable two injections should be given (500–1,000 millions).

Children under 15 years of age should be given one-half the dose indicated for adults. Vaccinated persons should be inspected daily for observation of the sequelæ or reactions following vaccination. They should also be warned as to the nature of the reaction in order to avoid creating a prejudice against anticholera vaccination among the ignorant.

The reaction which follows anticholera vaccination is of a local and general character. The local symptoms present themselves as swelling, redness, and local pain. General reaction shows symptoms of headache, fever, chills, general malaise, pain in the joints and bones, eventually vomiting and diarrhœa. The temperature curve as registered by various observers, is of peculiar type. Workers, who used large doses, observed a drop of temperature within 4–5 hours after injection. The drop of temperature is followed by a rise which may persist for a day or two. The severity of these symptoms depends on the dose given, although different individuals react to the vaccination with symptoms of various severity. The sensitized vaccine is claimed to produce less reaction than plain vaccine. The statistics collected in various countries show remarkable decrease in mortality, but particularly in morbidity, among vaccinated as compared with non-vaccinated persons (Ref. from C. L. on file). This fact proves that immunity results from the inoculation with cholera vaccine. Furthermore, numerous investigators tested the blood serum of vaccinated persons for the presence of immune bodies and found them to be present from about the 5th day after vaccination up to 10 or 14 months at which times the immune bodies were no longer present in the blood of the vaccinated persons. It was therefore concluded that the immunity lasts approximately one year after vaccination and the recommendation was made to revaccinate every year those persons who may come in contact with the disease. In connection with revaccination, a statement was found in the literature, which may be of practical interest, stating that the dose in revaccination need not be as large as that used in first vaccinated persons, and still produce immunity of equal degree.

The following conditions are given by various authors as contra-indications: Albuminuria, glycosuria, febrile conditions, diseases of the heart, beriberi, particularly the wet form, and advanced pregnancy.

In introducing anticholera vaccination in these islands, it is contemplated to have it as a supplementary measure to such other sanitary measures which have become routinary and have been found efficacious in the management of cholera outbreaks. What is especially desired, for the present, is to have it done amongst those portions of the population that fail habitually to maintain personal prophylaxis, and in such localities where endemic or residual cholera is present, or amongst known carriers, contacts, and other persons who had been exposed to contagion. It is planned to inaugurate anticholera vaccination in every province at the earliest possible time, and upon doing so, health officers are enjoined to keep a careful tab of all persons vaccinated, showing name, age, address, reaction, if any, and later, the comparative incidence of cholera among the vaccinated and unvaccinated. Any further information in the premises should immediately be requested from this office.

(Sgd.) V. JESUS,
Acting Director of Health.

And in the month of April further instructions were given in accordance with the quantity of vaccine virus that the Bureau of Science notified could be prepared. The following is a copy of the circular with reference to this matter:

PHILIPPINE HEALTH SERVICE.

MANILA, *April 28, 1920.*

CIRCULAR
S-32.

To all District Inspectors and District Health Officers:

Arrangements have been made with the Bureau of Science whereby said Bureau will furnish this Service with anticholeric vaccine in sufficient quantity to vaccinate 30,000 persons monthly.

The quantity of vaccine is desired to be distributed among the provinces at an average of 600 doses per month for each health district.

Vaccination should be begun in those localities where endemic or residual cholera is present as well as in known carriers or in families among whose members cases of cholera have been registered in previous years.

Instructions for the performance of the vaccination mentioned have already been given in Circular S-6, dated February 9, 1920, and the quantity of vaccine to be used should be requested by the district health officers from the Central Office.

Records of this office show that in previous years the month of May was the time when the first cases of cholera were reported, and therefore the present time is the most favorable to perform the vaccination in order to prevent an outbreak of cholera.

District inspectors are hereby directed to exercise strict supervision over the district health officers, in order that the provisions of this circular be complied with without fail.

(Sgd.) V. JESUS,
Acting Director of Health.

With the object to compile data and so be able to make a study of the results obtained by the anticholera vaccination in the provinces, the following cricular was issued:

PHILIPPINE HEALTH SERVICE.

MANILA, *June 17, 1920.*

CIRCULAR }
S–38. }

To all District Health Inspectors and District Health Officers:

The Philippine Health Service is now undertaking a campaign against cholera throughout the Philippine Islands by means of anticholera vaccination. It must be understood, however, that although studies were made, these have not been completed due to the limited time that has elapsed since they were begun, hence no definite conclusions could as yet be given. With the object of furthering the investigations and gathering data for these studies, an individual card is herewith enclosed to be filled out for each person vaccinated. These cards shall be filed in the office of the local health officer for identification and for further statistical studies.

A form for a weekly consolidated report to be filled out at the end of the week, stating the number of persons vaccinated in each municipality and which should be submitted to this office is also enclosed.

In filling out the individual cards, the attention of the health officers is called to the fact that this office *needs reliable data.* It is not expected to have all the questions answered. Doubtful answers must not be given. But, it is hoped that all local health officers will pay special attention to this matter and will endeavor to get accurate answers to the questions and to coöperate in other ways in this investigation.

(Sgd.) V. JESUS,
Acting Director of Health.

As in the month of June cases of cholera were reported as registered in the provinces, a new arrangement was made with the Bureau of Science to furnish a larger quantity of anticholera vaccine than that stated in Circular S–32 and in consequence the district health officers were directed that vaccination should be carried on more intensively.

The anticholera vaccine was applied only by the district health officers, presidents of sanitary divisions who are physicians, and graduate nurses. The total number of persons vaccinated by provinces is noted in Table F (anticholera vaccination.) This number is 2.1 per cent of the total population of this Division.

Always, and in the majority of the provinces, the work was preceded by a brief public conference explaining the purpose and effects of the vaccine.

Anticholera vaccination was accepted with satisfaction by the people. Generally speaking, it has been observed that people who would not submit themselves to vaccination against smallpox would willingly submit to anticholera vaccination, because they said that smallpox vaccination is more painful.

As can be seen in the statistics on anticholera vaccination, the number of persons in whom reactions have been noted is 40 per cent for the first injection; 0.60 per cent for the second, and 0.7 per cent for the total persons vaccinated. The reactions observed were either local or general.

Local reactions observed consisted of swelling, redness, and local pain, while the general reaction in the majority of cases was slight fever, headache, and malaise. Among those who suffered general reactions only two had abdominal pain with vomiting diarrhœa.

In several provinces the vaccination campaign was carried out in those barrios where cholera had appeared in previous years and among the contacts of cases or other persons who habitually fail to maintain personal hygiene, but in other provinces the vaccination was performed only among teachers, provincial and municipal employees and well-to-do persons.

Due to the little extension given to anticholera vaccination in the present year, and to the short period of time that has elapsed since its use was begun, it is believed that insufficient time has elapsed to form any conclusion with reference to its efficiency in the control and prevention of cholera epidemics, but we can submit the results of the little experience we have had to the consideration of the readers, deduced from the facts observed in those provinces in which the anticholera vaccine has been properly applied, not only because their respective district health officers duly complied with the instructions given in Circulars S–6 and S–32, but also because it seems that outbreaks of cholera registered were immediately controlled by the use of vaccine.

Examples of this fact may be taken from the reports submitted by the district health officers of the provinces of Bulacan, Cagayan, Pangasinan, and Palawan.

It can be considered that there were two focus of cholera in the Province of Bulacan: one in the municipality of Hagonoy and the other in the municipality of Obando. Each year cases of cholera had been registered in these two municipalities, but especially in Hagonoy which was always considered as the origin of all the epidemics registered in said province.

Vaccination in the municipality of Hagonoy was carried out in the natural endemic focus and among those persons who in previous years had had any relative who suffered or died from cholera. 5,838 was the total of vaccinations performed during the year in the municipality of Hagonoy, begun in the month of April. The same procedure was followed in the municipality of Obando, in which 3,053 vaccinations were performed. Twenty-eight thousand two hundred fifty was the total of vaccinated persons in the whole province during the present year and not a single case of cholera was registered in this province.

In Pangasinan an outbreak of cholera took place in the municipality of Calasiao. An intensive vaccination among the contacts of the cases stopped the spreading of the infection in a few days.

In the Province of Palawan another outbreak of cholera was registered in the municipality of Cuyo. The Central Office immediately sent nurses with sufficient quantity of anticholera vaccine and by only the means of vaccination the infection not only was limited to the barrio of Aborlan, but its control was also accomplished in a very short period of time.

The same fact happened in the municipality of Aparri of the Province of Cagayan.

These results, although in our opinion are not yet conclusive for the reasons hereafter stated, nevertheless, are in accordance with the studies of Dr. Cantacuzóne[1] who submitted the following conclusion with reference to the use of anticholera vaccination:

> First. The efficiency of anticholera vaccine is sure. There are no other methods more efficient for the protection of persons against cholera infection, and to extinguish *in situ* a growing focus.
>
> Second. It is necessary to vaccinate in case of epidemics because this is the condition *sine qua non* to arrest immediately an epidemic.

Perhaps after the study and results that will be obtained in the next year with a more careful use of said vaccine, we may be able to submit more precise conclusions.

In our opinion the doses of 1,000 million preconized in Circular S–6 as sufficient doses for the immunization of and adult in the Philippines is too low, believing that a dose double or triple of that recommended by the Committee will be much better.

(B) *Antityphoid vaccination.*—Antityphoid vaccination was directed since the year 1918 by Circular Q–43, dated July 26,

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[1] La pathogenic du cholera et la vaccination anticholerique. Annales de L'Instituto Pasteur, Paris t. XXXIV N. 2. February, 1920.

1918, but this is the first year in which statistical data of the vaccinations performed was kept as can be seen in Table F-1 (antityphoid vaccination.)

The instructions given in the mentioned Circular were as follows:

> Antityphoid vaccination is not compulsory, nor is it intended by the Philippine Health Service to make such use of said vaccination as to render probable the discontinuance of other preventive or prophylactic measures against typhoid and paratyphoid fever. The principles of a sound prophylaxis would rather lead to strictly confining the use of antityphoid vaccination to those localities where there is little or no sanitary progress or in private households or institutions where ignorance or other circumstances make 'contact infection' an unavoidable or on controllable feature, thus making the vaccination an auxiliary to, instead of a replacement of, the standard prophylactic measure.
>
> The mixed standard vaccine used by the Committee and prepared by the Bureau of Science shows the following composition per cc.:

	Million.
B. Typhosus	250
B. Paratyphosus A	125
B. Paratyphosus B	125

> The vaccination of adults is carried out as follows:

First injection	½ cc.
Second injection	1 cc.
Third injection	1 cc.

> The interval between one injection and the next should be one week.
>
> The dose for children must be reduced according to age.
>
> The duration of immunity conferred by antityphoid vaccination varies from one to three years.

As can be noted, three injections of typhoid vaccine are necessary to complete the immunization of a person and in consequence we can state that, as of the 2,558 persons vaccinated only 1,522 have received the three injections required, only 1,522 persons, or 60 per cent of the total vaccinated, have received a complete immunization. The number of persons vaccinated was only 0.03 per cent of the total population pertaining to this Division.

Of the 2,558 persons who received the 1st injection, 69 per cent showed reaction. Of the 2,009 persons who received the 1st and 2nd injections, 71 per cent sufferred reaction in the 2nd injection, and of the 1,522 persons who received the three injections, 35 per cent showed reaction in the 3d injection.

The strong and high percentage of reaction produced in the persons vaccinated with typhoid vaccine disinclined the people to submit themselves to its administration. It was observed also that the reaction suffered, obliged several persons to lie in bed for several hours and even up to a day or two.

TABLE I-1.—*Antityphoid vaccination performed during the year.*

Province.	Number of persons vaccinated.											
	Males.						Females.					
	Single injection.		Double injection.		Triple injection.		Single injection.		Double injection.		Triple injection.	
	Adults.	Children.	Adults.	Children.	Adults.	Children.	Adults.	Children.	Adults.	Children.	Adults.	Children.
Abra												
Albay												
Antique												
Bataan												
Batanes												
Batangas												
Bohol												
Bulacan	102	38	92	38	92	38	78	32	72	31	72	27
Cagayan	101		10		1		5		5			
Camarines Norte												
Camarines Sur												
Capiz												
Cavite												
Cebu												
Ilocos Norte												
Ilocos Sur												
Iloilo	309	45	175	18	144		59	47	19		6	
Isabela	4		4				4		4			
Laguna	25	9	13	6	4	6	27	12	13	2	13	1
La Union	3	1	3	1	3	1	1		1		1	
Leyte												
Marinduque												
Mindoro												
Mountain Province												
Nueva Ecija	27	4	18	4	18	4						
Nueva Vizcaya												
Occidental Negros												
Oriental Negros												
Oriental Negros												
Palawan												

Pampanga	11	9	10	9	10	9	10	6	10	6	10	6
Pangasinan	859	43	612	28	612	28	510	33	371	20	371	20
Rizal	64	11					35	9				
Romblon												
Samar												
Sorsogon												
Tarlac							3		3		3	
Tayabas												
Zambales	9	4	9	4	9	4	4	5	4	5	4	5
Total	1,514	164	946	108	893	90	736	144	502	64	480	59

TABLE I-1.—*Antityphoid vaccination performed during the year*—Continued.

Province.	Numbers that have shown reaction.												Ratio per cent of vaccinated persons to total population.	Ratio per cent of unvaccinated persons to total population.
	Males.						Females.							
	First injection.		Second injection.		Third injection.		First injection.		Second injection.		Third injection.			
	Adults.	Children.	Adults.	Children.	Adults.	Children.	Adults.	Children.	Adults.	Children.	Adults.	Children.		
Abra														
Albay														
Antique														
Bataan														
Batanes														
Batangas														
Bohol														
Bulacan	95	36	85	36	85	36	69	27	63	26	63	22	0.10	99.90
Cagayan	101		10		1		5		5				0.05	99.95
Camarines Norte														
Camarines Sur														
Capiz														
Cavite														
Cebu														
Ilocos Norte														
Ilocos Sur														
Iloilo	193	15	171	9	141		35	20	17		4		0.09	99.91
Isabela			4						4				0.01	99.99
Laguna	22	6	17	4	12	3	19	11	14	3	13	1	0.04	99.96
La Union	3	1	3	1	1		1		1		1		0.01	99.99
Leyte														
Marinduque														
Mindoro														
Mountain Province														
Nueva Ecija	23	4	17	4	17	4							0.01	99.99
Nueva Vizcaya														
Occidental Negros														
Oriental Negros														
Palawan														

Pampanga	11	9	10	9	10	9	10	6	10	6	10	6	0.01	99.99
Pangasinan	557	21	565	10	520	30	329	18	309	14	298	10	0.26	99.74
Rizal	60	10					33	8					0.05	99.95
Romblon														
Samar														
Sorsogon														
Tarlac							3		3		3		0.01	99.99
Tayabas														
Zambales													0.02	99.98
Total	1,065	102	882	73	787	82	504	90	426	49	392	39	0.03	99.97

Owing to these facts the Bureau of Science, at the request of this Service, is at the present time studying the preparation of a sensitized vaccine with which immunization can be obtained with a single injection and with less reaction.

TABLE I–2.—*Antismallpox vaccination performed during the year.*

Province.	Number of units issued.	Total vaccinations.	Total inspections.	Positives.	Rate per cent of positives.
Abra	54,350	61,334	33,161	18,496	55.77
Albay	335,900	239,349	160,593	115,246	48.00
Antique	15,764	11,986	11,986	7,778	64.00
Bataan	14,500	12,169	11,123	7,992	72.00
Batanes	2,279	2,279	2,141	1,937	90.40
Batangas	76,750	48,190	17,338	12,073	69.60
Bohol	119,000	115,205	87,917	57,294	65.17
Bulacan	35,850	30,806	18,955	14,858	78.38
Cagayan	88,850	75,376	46,234	32,386	70.05
Camarines Norte	52,234	52,234	33,275	24,885	48.00
Camarines Sur	81,300	95,329	55,384	40,483	73.09
Capiz	150,000	121,250	105,240	65,513	62.00
Cavite	55,286	47,275	40,729	28,098	68.98
Cebu	396,800	356,629	269,365	151,600	56.28
Ilocos Norte	131,590	151,583	137,143	29,617	21.50
Ilocos Sur	63,000	57,611	42,352	24,797	58.54
Iloilo	217,100	201,882	89,858	70,704	78.00
Isabela	5,000	4,262	3,397	1,430	42.00
Laguna	17,950	17,988	15,334	9,739	63.51
La Union	227,161	233,605	141,986	85,923	61.21
Leyte	177,900	154,987	92,010	67,566	73.43
Marinduque	22,350	19,070	13,102	9,374	71.34
Mindoro	14,000	13,647	9,162	5,561	60.60
Mountain Province	82,375	67,267	39,904	29,219	73.20
Nueva Ecija	140,000	86,358	67,022	40,832	60.92
Nueva Vizcaya	29,850	28,417	20,793	14,258	68.57
Occidental Negros	80,645	69,033	47,298	47,298	68.00
Oriental Negros	47,000	54,809	42,384	30,250	71.37
Palawan	8,900	4,726	4,151	2,638	63.31
Pampanga	61,950	60,977	34,948	23,299	66.00
Pangasinan	180,550	176,258	139,347	85,751	62.00
Rizal	119,050	118,810	75,842	48,130	63.44
Romblon	78,000	57,284	42,809	32,549	76.00
Samar	112,400	96,228	57,083	38,674	67.75
Sorsogon	132,082	133,695	78,258	47,595	60.00
Tarlac	49,150	46,156	31,410	20,287	64.59
Tayabas	73,900	71,812	60,187	43,389	72.08
Zambales	41,050	26,584	22,618	12,466	55.10
Total	3,591,816	3,222,460	2,201,839	1,399,985	63.58

(C) *Vaccination against smallpox.*—Three million two hundred twenty-two thousand four hundred sixty (3,222,460) persons were vaccinated during the present year, which added to the 10,477,514 vaccinated since the year 1918 makes a total of 13,699,974 persons vaccinated in three years, which is more than the total population pertaining to this Division in the year 1918 plus the births registered during the years 1919 and 1920. The reason for this great number of vaccinations performed is that in several provinces in which the total population had already been vaccinated, a revaccination was begun.

As has been stated in another part of this report, it was not possible to carry out complete vaccination against smallpox in the remote places in the past years, owing to the impossibility of receiving fresh vaccine, but this difficulty has been overcome in the present year by the use of the pulverized smallpox vaccine prepared by the Bureau of Science.

The following circular was prepared in the month of February in connection with the use of pulverized vaccine:

PHILIPPINE HEALTH SERVICE.

MANILA, *February 19, 1920.*

CIRCULAR
S-10.

To all Health Officers in the Philippine Health Service:

After February 20, 1920, the Bureau of Science will have ready for distribution a limited amount of dried and pulverized smallpox vaccine to be used in remote places.

This office has decided that only at the following points should small lots of said vaccine be kept:

Municipality.	Province.
Apayao	Mountain Province.
Bontoc	
Cervantes	
Ilagan	Isabela.
Bayombong	Nueva Vizcaya.
Bolinao	Pangasinan.
Alaminos	
Cabanatuan	Nueva Ecija.
Cavite	Cavite.
Lucena	Tayabas.
Polillo	
Lubuangan	Mindoro.
Calapan	
Santa Cruz	Marinduque.
Daet	Camarines Norte.
Catanduanes	Albay.
Burias	Sorsogon.
Tablas	Romblon.
Bacolod	Occidental Negros.
Bantayan	Cebu.
Camote	Leyte.
Baybay	
Borongan	Samar.
Catbalogan	
San Jose	Antique.
Siquijor	Negros Oriental.
Division of Mindanao and Sulu.	

From the above places, the district health officers may send the dried and pulverized smallpox vaccine to other points of their respective health districts.

The cost of dried vaccine is about four times that of ordinary vaccine and therefore the district health officers must use it very economically.

This kind of vaccine is prepared by the Bureau of Science for delivery as follows:

The dried vaccine is put in one rubber stoppered amber glass vial and the amount of glycerine for making the suspension in another one, that is, 50 units in each vial.

DIRECTIONS FOR THE USE OF DRIED VACCINE VIRUS.

First. Keep the vaccine in a dark, cool, and dry place.

Second. Do not expose the vaccine to direct sunshine or artificial heat.

Third. Remove the rubber stopper of both vials.

Fourth. Pour the glycerine (liquid) into the vial containing the powder-like dried vaccine.

Fifth. Replace the rubber stopper tightly in the tube containing the pulverized vaccine and shake vigorously until the powder emulsifies well in liquid.

Sixth. The above outlined procedure should be done immediately before vaccination should be used in the same day only.

The district health officers who use this product shall report in triplicate the results obtained by the use of the dry vaccine in first vaccinated children, giving the data of vaccination.

A complete success was obtained with the use of this kind of vaccine according to the reports submitted by the district health officers, who estimated that 70 per cent of the vaccinations gave positive results. Therefore, the use of dried and pulverized vaccine will be used more extensively in the coming year.

For the more scientific performance of vaccination, the following instructions were given to the district health officers.

> The vaccination work by the district health officers should be carried out only among inhabitants of distant barrios who have never been submitted to vaccination, as well as among the children newly born, the pupils attending the public or private schools for the first time, and contacts of smallpox, varioloid and varricella cases, who have not been vaccinated in the past ten years.
>
> The practice of vaccinating every year pupils attending the public schools should be discontinued, especially among those already vaccinated in the past seven years with positive results. The systematic vaccination is hereby directed to be performed only by the vaccinating parties appointed in May, 1919.
>
> The scientific use of vaccine virus should result in a large percentage of immunization, but the use of vaccine virus without rhyme or reason will result only in a loss of both time and money.

Vaccination was carried out without difficulty during the year and many health officers made arrangements with the parish priests in order that the newly born children could be vaccinated at the time of their baptism.

From the annual report of the district health officer of Nueva Ecija is quoted the following paragraph with reference to vaccination:

> Vaccination against smallpox has proved a great success and the people are beginning practically to appreciate it. The time when they had to hide for fear of vaccination is now gradually fading out, and the happy time

when they themselves search for the vaccinators voluntarily is now gaining a strong foothold. Time is prophesied in the near future when the work of vaccination will be easy and smallpox has to die as a ravaging epidemic.

Vaccinating parties.—The six vaccinating parties organized last year (see pages 297 to 218 of the annual report for 1919) continued their work in the present year under the same plan as in the past year, and the work done by them is tabulated in the following Table I–3.

TABLE I–3.—*Work done by the vaccinating parties.*

Number of the party.	Number of municipalities vaccinated.	Population.	Number of vaccinators employed.	Number of days devoted.	Number of vaccinations performed.	Number of positives.
1	19	360,673	20	366	234,657	92,699
2	14	204,696	20	366	142,710	20,472
3	4	60,531	20	366	48,804	17,231
4	34	116,004	20	366	217,595	77,564
5	17	168,560	20	366	144,936	65,082
6	28	250,927	20	366	162,183	72,318
Total	116	1,161,391	120	366	950,885	345,366

As can be seen in the above-mentioned table, the work done by the vaccinating parties in the present year is quite double that done in the previous year.

The number of municipalities vaccinated in the present year was 116 as against 75 in the past year and the number of vaccinations performed was 950,885 as against 389,753 in the past year, the positives were 345,366 as against 145,551 in the past year.

Vaccinating party No. 1 continued its work in the Province of Cebu, completing the vaccination of 19 municipalities, including the City of Cebu.

In the month of March, when the vaccination in the town of Compostela was about finished, an outbreak of smallpox in the City of Cebu wsa registered. This party proceeded to the City of Cebu to help the provincial sanitary inspectors of the city in the control of the epidemic. The party worked in this city during the whole month of April and the first half of May. At that time, the towns of Samboan and Santander were infected also with smallpox and half of the party was detailed in said municipalities for the same purpose as in the City of Cebu and after a week, the whole party was transferred to said municipalities.

Party No. 2 completed during the year the vaccination of eleven municipalities in Ilocos Norte and three in Pangasinan, finishing with this the complete vaccination of the Province of Ilocos Norte and beginning the vaccination of the Province of Pangasinan with the municipalities situated in the northern part of said province.

Party No. 3 completed the vaccination of the whole Province of Nueva Vizcaya and four municipalities in the eastern part of the Province of Pangasinan.

Party No. 4 completed the vaccination of the whole Province of Cagayan, the subprovince of Apayao, and fourteen municipalities of the Province of La Union.

The subprovince of Apayao is inhabited by non-Christian tribes, but no difficulties were encountered in their vaccination.

Party No. 5 continued its work in the Province of Leyte, completing the vaccination in 17 municipalities.

Party No. 6 finished the vaccination in the Province of Samar and the subprovince of Masbate and two municipalities of Sorsogon.

Since the appointment of these six vaccinating parties in the year 1919, the Province of Cagayan, Isabela, Nueva Vizcaya, Ilocos Norte, Ilocos Sur, La Union, Sorsogon, and Masbate, in the Island of Luzon, and the Island of Samar of the Visayan Islands have been completely vaccinated and in the next year, the Islands of Leyte and Cebu will be finished.

Some difficulties were encountered by these parties in the performance of their work due to the topographical condition of the places where they were working. The barrios usually are located far from the towns and the houses are also set far apart. During the rainy season the work was very hard due to scarcity of foodstuffs and with frequency vaccinators put their lives in danger by crossing overflowing rivers.

LABORATORIES.

Six more new laboratories were established during the year: One in the Province of Tarlac, one in the Province of Palawan. and one each in the subprovinces of Kalinga, and Apayao of the Mountain Province, respectively, making a total of 30 laboratories in operation at the end of the year.

New laboratories are expected to be established during the coming year in the provinces of La Union, Capiz, Ilocos Norte, and Samar.

TABLE J.—*Laboratory specimens examine during the year.*

Province.	Blood.	Urine.	Nasal secretions.	Sputum.	Feces.	Others.	Total.
Abra [a]							
Albay [d]							
Antique [d]							
Bataan							
Batanes [a]							
Batangas	27	16		24	67	10	144
Bohol	4				20		24
Bulacan	15	42		6	23		86
Cagayan	8	1	8	3			20
Camarines Norte [a]							
Camarines Sur	55	8		5	28		96
Capiz [a]							
Cavite [a]							
Cebu	181				2	108	291
Ilocos Norte [a]							
Ilocos Sur		5		20			25
Iloilo	22			5	13		40
Isabela [a]							
Laguna	5	1			3		9
La Union [a]							
Leyte	217	99		42	40	38	436
Marinduque			2		1		3
Mindoro	6	8	1	4	3		22
Mountain Province [b]	100	108		19	118		345
Nueva Ecija	89	144	13	42	29	60	377
Nueva Vizcaya [d]							
Occidental Negros [d]							
Oriental Negros [a]							
Palawan [c]	14	22		1	4		41
Pampanga	1	31		2	53		87
Pangasinan	32	38	1	48	10	16	145
Rizal [a]							
Romblon [a]							
Samar [a]							
Sorsogon	2	35	11	37	37		122
Tarlac			15				15
Tayabas	59	176	19	105	84	178	621
Zambales [a]							
Total	837	734	70	363	535	410	2,949

[a] No laboratory. [b] Has six laboratories. [c] Has two laboratories. [d] No report.

By arrangements made with the Bureau of Science, the work of the provincial laboratories of Cebu and Iloilo together with their equipment and materials were transferred to a local branch of said Bureau established in the above-mentioned provinces.

The work done by the provincial laboratories is noted in Table J. The work performed by these laboratories during the present year is less than that performed in the past year, considering said work in its entirety; but if this work is compared with that shown in Table L in the past year's report, we can see that the decrease is due to the number of specimens of feces examined, because there were only 535 such examinations in the present year as against 12,628 in the past year. This notable difference can be explained by the fact that in the present year not many cases of cholera and dysentery were registered if compared with those registered in the past year, and in consequence less specimens of stools were examined in the present year.

Also it can be noted that the majority of specimens examined are more especially for clinical rather than sanitary purposes. In order to make the laboratory work more extensive, several provinces appointed bacteriologists to take charge of their laboratories, and in this way water supplies, aërated waters, milk, ice cream, and other similar products, will be examined and in consequence more thorough work, from a sanitary standpoint, will be done by the provincial laboratories, and more effective campaigns against carriers of communicable diseases will be undertaken in the provinces.

MEDICAL RELIEF.

Two hundred and fourteen new public dispensaries were opened during the present year and twenty-two were closed, making a total of 867 in operation at the end of the year, as against 675 in operation at the end of 1919 and 517 at the end of 1918.

The emergency hospitals and isolation houses established in the provinces during the year, the infant welfare dispensaries, the dispensaries established by the Anti-tuberculosis Society, Women's Clubs, etc., are not included in Table K.

In the present year more surgical operations, either in adults or in infants, and more attendance at residence were given than in the past year, but this fact should be a natural sequence to the better health conditions observed in the present year because not having registered epidemics the technical personnel had more time for to attended the public dispensaries.

The difference noted in the number of patients attended at the dispensaries in the present year if compared with those attended at the dispensaries in the past year is so little (in spite of the better health conditions of the present year) that we may conclude that the health officers have been notably impulsed to give more and better attendance to the public dispensaries during the present year, resulting in consequence that the public recovered its confidence in the physicians and nurses attending the dispensaries due to the greater interest shown in attending them by said officials.

Practically every municipality has been provided with a dispensary placed under the charge of a sanitary inspector supervised by the presidents of sanitary division, but in the municipalities where the president of the sanitary division has his residence the dispensary is attended by him personally.

Where there is no qualified physician, few patients attended the public dispensaries, but on the other hand the number of patients attended is larger.

TABLE K.—*Condensed report of dispensaries.*

Province.	Consultations.		Treatments.		Operations.		Attendance at residence.		Total.		Public dispensaries.			
	Adult.	Infant.	Adult.	Infant.	Adult.	Infant.	Adult.	Infant.	Adult.	Infant.	In operation during 1919.	Opened during 1920.	Closed during 1920.	In operation at the end of 1920.
Abra	377	210	216	119	36	21	196	191	825	541	4	4		8
Albay	1,575	899	1,870	717	235	125	337	205	4,017	1,946	20			20
Antique	439	270			1				440	270	1	11		12
Bataan	993	499	124	76	27	15	106	71	1,250	661	9			9
Batanes	202	117	328	167			183	83	713	367	5	1		6
Batangas	1,266	700	1,578	1,932	33	7	627	504	3,504	3,143	4	21		25
Bohol	1,670	460	2,322	488	115	23	302	97	4,409	1,068	35			35
Bulacan	4,435	1,938	8,902	5,675	427	204	1,268	849	15,032	8,666	59			59
Cagayan	142	63	173	63	16	13	190	54	521	193	5	8	1	12
Camarines Norte	299	2	67	38	6	2			372	42	1	8		9
Camarines Sur	399	146	288	83	21	5	76	41	784	275	4	14		18
Capiz	4,850	5,170	2,938	3,124	170	106	3,297	3,574	11,255	11,974	30			30
Cavite	1,408	462	669	300	115	65	632	203	2,824	1,030	14	6		20
Cebu	1,840	487	1,595	332	78	18	768	425	4,281	1,262	31	25		56
Ilocos Norte	407	159	328	88	49	27	227	71	1,011	345	15			15
Ilocos Sur	1,206	475	881	301	107	39	586	566	2,780	1,381	19			19
Iloilo	4,159	2,324	1,402	734	158	108	1,242	886	6,961	4,052	34	2		36
Isabela	300	76	79	44	21	1	102	63	502	184	12		3	9
Laguna	1,444	789	653	192	36	33	577	386	2,710	1,400	26	2		28
La Union	562	406	466	256	6	5	1,448	318	1,482	985	13	1		14
Leyte	3,683	879	4,184	876	264	117	1,577	604	9,708	2,476	46			46
Marinduque	683	485	612	438	41	22	377	348	1,713	1,293	6			6
Mindoro	498	367	833	587	25	12	168	192	1,524	1,158	8	6		14
Mountain Province	12,581	2,316	19,369	4,365	70	20	2,653	1,207	34,673	7,908	31	1		32
Nueva Ecija	3,316	2,077	1,801	1,355	209	75	3,780	3,683	9,106	7,190	34	3		37
Nueva Vizcaya	1,442	663	3,571	2,149	119	50	983	470	6,108	3,332	4	2		6
Occidental Negros	2,691	943	3,715	1,212	317	168	706	464	7,429	2,787	26			26
Oriental Negros	1,680	689	1,296	258	39	16	587	172	3,602	1,135	11	11		22
Palawan	809	296	1,709	740	121	14	126	76	2,765	1,126	6	4	1	9
Pampanga	2,904	1,273	309	144	5	2	455	321	3,673	1,740	21	21		42
Pangasinan	2,427	693	2,248	837	168	64	347	200	5,190	1,794	26	20		46
Rizal	1,501	791	1,615	818	727	202	308	244	4,151	2,055	41		15	26
Romblon	148	28	13				12	8	173	36	1	9	1	9
Samar	1,282	687	1,663	748	66	15	630	295	3,641	1,745	14	15		29
Sorsogon	173	96	132	69	13	7	92	61	410	233	9	6	1	14
Tarlac	1,211	378	927	403	42	14	170	114	2,350	909	16	8		24
Tayabas	1,432	684	625	223	65	26	1,086	546	3,208	1,479	21	3		24
Zambales	2,416	600	1,860	536	116	40	492	192	4,884	1,368	13	2		15
Total	68,850	29,597	71,361	30,487	4,057	1,681	25,713	17,784	169,981	79,549	675	214	22	867

Although in some municipalities the people do not seem to take advantage of the public dispensaries established in their locality, in others, they like them so much that even the non-indigent persons get the benefit derived from them, concluding that the primary duty of the health officers is to give free medical treatment to patients, and ignoring completely that they have also other duties as sanitarians. The public dispensaries are, on the other hand, good means to attract the sympathy of the people and get their coöperation when an epidemic of any nature appears in their vicinity.

Occasionally infectious diseases, such as leprosy, dysentery, typhoid fever, measles, whooping cough, etc., have been detected in these public consultations, and they also served as guide to discover the existence of more cases in a given locality.

Emergency hospitals or isolation houses have been established in time of epidemics in which the cases were attended.

Three new permanent hospitals have been finished during the year in the Mountain Province one each at Tubuagan (Kiangan and Cervantes) and materials are already ready for the erection of one more permanent hospital in Cabugao.

Igorrot women were also appointed as dispensary attendants in the Mountain Province who greatly influenced the primitive people of these regions, and many of them presented themselves for medical treatment, especially maternity cases and children.

On the contrary, the provincial hospital of Naga in the Province of Ambos Camarines was closed on July 1st due to lack of available funds. Ambos Camarines was reorganized during the year into two separate provinces: Camarines Norte and Camarines Sur, and due to this division not enough funds were available in Camarines Sur for the continuation of the provincial hospital in Naga, but it is expected that in the next year, the Provincial Board of Camarines Sur will appropriate sufficient funds for the continuation of said hospital.

INFANT WELFARE.

It should be stated that the number of dispensaries operated in connection with infant welfare reported in the present year does not agree with those reported in the past year, because some district health officers included in this table in the past year's report, all the public dispensaries in operation in their health district when they should have included only dispensaries operated in connection with the care of infants, but not those already reported in Table K.

TABLE L.—*Infant welfare.*

Province.	Number of women's clubs.		Number of puericultural centers.		Number of maternity wards.		Number of "gotas de leche."	
	1919	**1920**	**1919**	**1920**	**1919**	**1920**	**1919**	**1920**
Abra	13	16						
Albay	6	7						
Antique	12	12						
Bataan	2	2						
Batanes								
Batangas	6	6						
Bohol	26	14						
Bulacan	24	24						
Cagayan	23	14						
Camarines Norte	2	2						
Camarines Sur	5	4						
Capiz	3		2					
Cavite	1	1						
Cebu	20	23	1		1	1	1	1
Ilocos Norte	3	13						
Ilocos Sur	4	17						
Iloilo	9	13	8				2	2
Isabela	11	12						
Laguna	2	3	2	2			2	2
La Union	6	6		1				
Leyte	3	3	3	3				
Marinduque	2	2	3	4				
Mindoro	1	2	2	2		1	2	2
Mountain Province	2	3						
Nueva Ecija	6	6	6	5		1	5	1
Nueva Vizcaya	6	6						
Occidental Negros	24	24	2	2				
Oriental Negros	2	2					1	2
Palawan	2	2	1					
Pampanga	5	5						
Pangasinan	39	39	1	1				
Rizal	4	1	2				1	2
Romblon	1	1	1				1	
Samar	4	2	2	1		1		
Sorsogon	4	6						
Tarlac	10	9						
Tayabas	3	14	5	12		2		3
Zambales								
Total	296	316	41	33	1	6	15	15

TABLE L.—*Infant welfare*—Continued.

Province.	Number of dispensaries.		Number of baby contests celebrated.		Number of pueri-cultural centers submitting report, as per by-laws.	
	1919	1920	1919	1920	1919	1920
Abra	8	8	1			
Albay				1		
Antique						
Bataan				1		
Batanes	1	1				
Batangas	1	1				
Bohol						
Bulacan	2	2			7	7
Cagayan	6	7	2	2		
Camarines Norte						
Camarines Sur						
Capiz	1			3		
Cavite			1	2		
Cebu	2	7	2	13		
Ilocos Norte			1	4		
Ilocos Sur						
Iloilo	2	2	3	1		1
Isabela		7		1		
Laguna	1	3	3	2	1	2
La Union		1	1	1		1
Leyte		1				
Marinduque	6	6			1	1
Mindoro	2	2		1	4	7
Mountain Province						
Nueva Ecija	3	4	1	1		
Nueva Vizcaya	1	1				1
Occidental Negros	2	2	3		2	
Oriental Negros	2	2	1	2		
Palawan						
Pampanga				5		
Pangasinan	26	31	6	5	1	1
Rizal			7	4		
Romblon						
Samar		1				1
Sorsogon	6	6				
Tarlac	5	7	4	4		
Tayabas	6	15	2	7		
Zambales						
Total	83	117	38	60	16	22

A notable increase has been noted in the number of women's clubs, maternity wards, dispensaries and baby contests organized.

If the organization of women's clubs is admitted to be chiefly for the purpose of reducing infant mortality, under this circumstance, only few women's clubs can be considered as efficient. Among all the women's clubs, the women's club of Cabanatuan in the Province of Nueva Ecija is ahead of them all, with the woman's club of Cebu following as second place.

WORK DONE BY THE DISTRICT NURSES DURING THE YEAR.

Although the number of district nurses employed in the present year is practically the same as that in the past year, the work done by them in the present year was almost double that done in the past year.

TABLE M.—*Work done by the district nurses.*

Province.	Abortions.		Normal deliveries.		Dystocias.		Post partums.	
	1919	1920	1919	1920	1919	1920	1919	1920
Abra	......	......	......	......	......	......	......	......
Albay	......	20	......	56	......	11	......	16
Antique	......	......	18	......	......	......	......	......
Bataan	4	......	25	......	2	......	1	......
Batanes	......	......	......	......	......	......	......	......
Batangas	......	83	......	588	......	21	......	1,456
Bohol	2	......	9	1	2	1	2	......
Bulacan	24	70	132	207	39	53	226	114
Cagayan	1	4	6	24	......	1	......	26
Camarines Norte	......	......	......	......	......	......	......	......
Camarines Sur	......	......	4	11	......	......	......	......
Capiz	......	......	......	......	......	......	......	......
Cavite	......	......	......	......	......	......	......	......
Cebu	4	16	1,691	1,564	24	17	30	11
Ilocos Norte	......	......	......	......	......	......	......	......
Ilocos Sur	1	1	6	24	1	1	......	9
Iloilo	2	14	9	83	......	13	......	20
Isabela	......	......	......	......	......	......	......	......
Laguna	1	1	35	10	3	1	......	9
La Union	3	......	2	......	......	......	......	......
Leyte	2	47	1	2	......	1	6	1
Marinduque	1	1	2	16	3	5	17	59
Mindoro	......	......	......	......	......	......	......	......
Mountain Province	7	7	37	46	1	10	8	4
Nueva Ecija	3	7	15	10	......	3	44	27
Nueva Vizcaya	17	3	94	112	......	4	......	10
Occidental Negros	37	15	147	41	17	1	30	17
Oriental Negros	1	......	......	......	......	......	......	......
Palawan	......	4	30	6	3	1	......	1
Pampanga	......	1	27	12	......	......	......	......
Pangasinan	2	12	61	49	5	4	......	30
Rizal	......	......	......	......	......	......	......	......
Romblon	......	......	......	......	......	......	......	......
Samar	......	......	......	......	......	......	......	......
Sorsogon	......	10	......	12	......	10	......	1
Tarlac	......	6	......	22	......	2	......	5
Tayabas	16	67	1,159	1,164	33	35	961	56
Zambales	......	......	......	......	......	......	......	......
Total	128	389	3,510	4,060	133	195	1,325	1,879

TABLE M.—*Work done by the district nurses*—Continued.

Province.	Infants attended under two years feeding.				Lectures.			
	Breast.		Artificial.		Public.		Private.	
	1919	1920	1919	1920	1919	1920	1919	1920
Abra								
Albay		139		51		23		49
Antique					20		163	
Bataan	25						50	
Batanes								
Batangas		2,289		449		510		3,747
Bohol	40		17		86		64	
Bulacan	330	736	255	161	68	141	2,001	1,917
Cagayan	24	178	11	48	5	41	8	
Camarines Norte								
Camarines Sur		2		9	6	68	6	48
Capiz								
Cavite								
Cebu	1,641	1,554	20	112	8	119	1,691	1,640
Ilocos Norte								
Ilocos Sur		23		3	44	23	67	404
Iloilo	18	41	8	18	19	16	36	82
Isabela								
Laguna	48	5	2	4	4	10	44	25
La Union	19		1		4			
Leyte	90	43	11	9	2	3	1,713	
Marinduque	18	59	3	8	1		81	143
Mindoro								
Mountain Province	18	86	7	20	18	74	213	741
Nueva Ecija	108	34	17	3			106	212
Nueva Vizcaya	149	332	6	1	24	10	178	606
Occidental Negros	511	301	233	151	101		389	118
Oriental Negros								
Palawan	28	6	2	5	7	10	40	62
Pampanga	517		7		132	53	132	10
Pangasinan	2,159	170		43	763	17	4,877	353
Rizal								
Romblon								
Samar								
Sorsogon		373		36		2		14
Tarlac		236		38		67		100
Tayabas	804	829	87	119	5	17	321	243
Zambales								
Total	6,547	7,436	687	1,288	1,317	1,204	12,185	10,515

This was due to the fact that during the past year the nurses also devoted a large part of their time to the control of epidemics while in the present year they devoted all their time to their proper work, that is, the prevention of infant mortality and its reduction.

Many provinces cannot have the service of nurses due not only to the shortage of nurses noted in the Philippines, but also to the low salary that the appropriations for the health funds of the provinces permit to offer them. On the other hand the work that devolves on the district nurses is harder than the work of a nurse in a hospital and inasmuch as the average salary offered to district nurses can be estimated at seventy pesos per month plus traveling expenses and per diems, they prefer to work as nurses in the hospitals rather than as district nurses.

Not as much work was done by private agencies in connection with infant welfare in the present year as was noted had been done by said agencies in the past year.

With reference to this matter there are quoted below (without any comment on the part of the writer) some considerations by the district health officer of Batangas in his annual report, the value of which may be appreciated by the readers.

The district health officer mentioned said:

> Such agencies—private agencies—have been found at best but complementary factors in the fight against infant mortality. It would appear as though the time has come for the creation of a division of infant welfare in the Philippine Health Service to avoid unnecessary duplication of work and to insure centralized and coördinated effort. The creation of a separate bureau of infant welfare will not serve the purpose, inasmuch as it will necessitate the creation of an organization almost as vast as the present health organization in the municipalities and provinces, and the expenditure consequent thereto will be prohibitive. The idea of making use of provincial and municipal health officers in this regard under the supervision of such a bureau would be unfair to say the least, for it will place such officers under two chiefs and will place the new bureau in a position to reap merit and commendation for work and efforts done by another bureau. On the other hand, the factors concerned in infant mortality and a good many factors concerned in public health are one and indivisible, and the creation of a separate bureau will surely bring about useless duplication of work.

TABLE N.—*Mortality by puerperal state.*

Province.	1920	1919	1918	1917	1916
Abra	14	15	14	16	16
Albay	113	145	190	140	131
Antique	38	35	39	42	55
Bataan	16	13	33	19	20
Batanes	.....	.....	.....	.....	.....
Batangas	132	172	277	147	139
Bohol	93	115	133	132	101
Bulacan	54	64	130	72	93
Cagayan	75	69	59	39	43
Camarines Norte	19	20	38	26	24
Camarines Sur	97	94	133	74	79
Capiz	85	87	149	80	71
Cavite	58	46	86	52	76
Cebu	203	243	306	207	191
Ilocos Norte	51	85	84	61	58
Ilocos Sur	34	59	84	56	60
Iloilo	132	123	214	194	176
Isabela	4	25	32	19	15
Laguna	71	90	105	64	90
La Union	16	33	35	39	33
Leyte	154	172	166	60	48
Marinduque	19	19	.....	.....	.....
Mindoro	25	22	15	.....	.....
Mountain Province	9	14	11	13	8
Nueva Ecija	106	102	103	69	63
Nueva Vizcaya	22	15	11	13	9
Occidental Negros	79	146	167	185	156
Oriental Negros	50	59	99	86	59
Palawan	9	2	5	13	2
Pampanga	68	86	161	83	126
Pangasinan	175	235	254	158	206
Rizal	38	41	65	60	62
Romblon	26	22	31	27	26
Samar	99	110	132	109	90
Sorsogon	68	108	132	164	61
Tarlac	82	76	106	80	48
Tayabas	89	91	107	94	92
Zambales	23	21	26	19	24
Total	2,446	2,883	3,732	2,652	2,572

DIRECTIONS FOR THE USE OF DRIED VACCINE VIRUS.

First. Keep the vaccine in a dark, cool, and dry place.

Second. Do not expose the vaccine to direct sunshine or artificial heat.

Third. Remove the rubber stopper of both vials.

Fourth. Pour the glycerine (liquid) into the vial containing the powder-like dried vaccine.

Fifth. Replace the rubber stopper tightly in the tube containing the pulverized vaccine and shake vigorously until the powder emulsifies well in liquid.

Sixth. The above outlined procedure should be done immediately before vaccination should be used in the same day only.

The district health officers who use this product shall report in triplicate the results obtained by the use of the dry vaccine in first vaccinated children, giving the data of vaccination.

A complete success was obtained with the use of this kind of vaccine according to the reports submitted by the district health officers, who estimated that 70 per cent of the vaccinations gave positive results. Therefore, the use of dried and pulverized vaccine will be used more extensively in the coming year.

For the more scientific performance of vaccination, the following instructions were given to the district health officers.

The vaccination work by the district health officers should be carried out only among inhabitants of distant barrios who have never been submitted to vaccination, as well as among the children newly born, the pupils attending the public or private schools for the first time, and contacts of smallpox, varioloid and varricella cases, who have not been vaccinated in the past ten years.

The practice of vaccinating every year pupils attending the public schools should be discontinued, especially among those already vaccinated in the past seven years with positive results. The systematic vaccination is hereby directed to be performed only by the vaccinating parties appointed in May, 1919.

The scientific use of vaccine virus should result in a large percentage of immunization, but the use of vaccine virus without rhyme or reason will result only in a loss of both time and money.

Vaccination was carried out without difficulty during the year and many health officers made arrangements with the parish priests in order that the newly born children could be vaccinated at the time of their baptism.

From the annual report of the district health officer of Nueva Ecija is quoted the following paragraph with reference to vaccination:

Vaccination against smallpox has proved a great success and the people are beginning practically to appreciate it. The time when they had to hide for fear of vaccination is now gradually fading out, and the happy time when they themselves search for the vaccinators voluntarily is now gaining a strong foothold. Time is prophesied in the near future when the work of vaccination will be easy and smallpox has to die as a ravaging epidemic.

Vaccinating parties.—The six vaccinating parties organized last year (see pages 297 to 218 of the annual report for 1919) continued their work in the present year under the same plan as in the past year, and the work done by them is tabulated in the following Table I-3.

TABLE I-3.—*Work done by the vaccinating parties.*

Number of the party.	Number of municipalities vaccinated.	Population.	Number of vaccinators employed.	Number of days devoted.	Number of vaccinations performed.	Number of positives.
1	19	360,673	20	366	234,657	92,699
2	14	204,696	20	366	142,710	20,472
3	4	60,531	20	366	48,804	17,231
4	34	116,004	20	366	217,595	77,564
5	17	168,560	20	366	144,936	65,082
6	28	250,927	20	366	162,183	72,318
Total	116	1,161,391	120	366	950,885	345,366

As can be seen in the above-mentioned table, the work done by the vaccinating parties in the present year is quite double that done in the previous year.

The number of municipalities vaccinated in the present year was 116 as against 75 in the past year and the number of vaccinations performed was 950,885 as against 389,753 in the past year, the positives were 345,366 as against 145,551 in the past year.

Vaccinating party No. 1 continued its work in the Province of Cebu, completing the vaccination of 19 municipalities, including the City of Cebu.

In the month of March, when the vaccination in the town of Compostela was about finished, an outbreak of smallpox in the City of Cebu wsa registered. This party proceeded to the City of Cebu to help the provincial sanitary inspectors of the city in the control of the epidemic. The party worked in this city during the whole month of April and the first half of May. At that time, the towns of Samboan and Santander were infected also with smallpox and half of the party was detailed in said municipalities for the same purpose as in the City of Cebu and after a week, the whole party was transferred to said municipalities.

TABLE P.—*Medical inspection of school children.*

Province.	Number of pupils inspected.	Diseases found							Number of pupils excluded.	Treated.		
		Scabies.	Tonsils.	Conjunctivities.	Pertusis.	Contagious skin diseases.	Contagious eye diseases.	Dental caries.		Total.	At dispensaries.	At home.
Abra	3,451	235	107	7	....	....	....	264	43	613	369	244
Albay	14,498	277	88	12	....	379	....	1,964	295	336	284	52
Antique	8,038	6	1	42	....	379	1	373	16	361	83	278
Bataan	3,664	68	54	7	1	39	2	664	15	128	108	20
Batanes	1,336	3	....	....	....	12	4	3	22	17	15	2
Batangas	3,653	2,060	131	161	10	5	2	1,184	7	1,809	1,756	53
Bohol	12,931	458	384	17	....	526	4	1,267	87	927	317	610
Bulacan	17,742	406	346	101	3	215	5	6,427	266	583	583	....
Cagayan	5,654	321	107	44	....	62	28	594	101	60	15	45
Camarines Norte	(a)	....	....	....	....	....	....	....	....	....	....	....
Camarines Sur	4,095	135	211	26	101	7	22	832	9	191	191	....
Capiz	5,073	819	48	11	....	....	322	271	1,161	1,171	1,085	86
Cavite	2,755	75	1,451	56	....	18	106	662	184	316	284	32
Cebu	24,454	1,146	556	545	....	242	1,545	2,366	1,188	2,622	2,622	....
Ilocos Norte	(c)	....	....	....	....	....	....	....	....	....	....	....
Ilocos Sur	19,774	319	426	122	19	287	1	2,482	47	1,414	858	556
Iloilo	5,629	688	292	19	2	....	....	623	2	847	847	....
Isabela	2,531	36	64	23	....	54	....	531	3	3	3	....
Laguna	15,446	751	332	7	....	47	4	2,921	736	617	432	185
La Union	14,954	170	704	30	4	....	39	991	1	115	27	88
Leyte	23,951	471	499	181	....	873	164	3,197	367	1,560	1,193	367
Marinduque	5,072	102	23	1	....	....	....	449	....	574	566	8
Mindoro	1,079	356	31	57	3	67	....	134	115	175	110	65
Mountain Province	7,875	260	85	228	6	185	55	486	126	1,431	1,335	96
Nueva Ecija	14,174	643	605	147	....	27	8	3,006	5	785	763	22
Nueva Vizcaya	4,300	18	....	....	....	158	....	....	176	176	66	110
Occidental Negros	(a)	....	....	....	....	....	....	....	....	....	....	....
Oriental Negros	5,406	48	88	83	2	25	404	378	22	351	340	11
Palawan	1,022	63	5	2	....	22	....	107	13	105	100	5
Pampanga	3,970	237	....	....	....	....	....	705	237	237	237	....
Pangasinan	21,725	755	345	24	1	244	12	3,285	1,129	1,281	646	635
Rizal	5,075	431	63	25	6	80	159	1,162	97	1,923	1,814	109
Romblon	3,762	22	1	....	....	....	1	354	1	34	33	1

Samar	10,306	221	73	244	13	271	223	1,015	296	2,060	904	1,156
Sorsogon	8,742	241	5	4	....	19	1	2,206	185	276	276	....
Tarlac	10,991	404	202	152	4	98	....	1,650	83	1,203	380	823
Tayabas	16,287	281	95	7	....	274	10	4,926	149	429	240	189
Zambales	6,683	70	90	3	....	378	59	59	1,012	369	369	....
Total	316,098	12,596	7,512	2,388	175	4,993	3,181	47,538	8,196	25,099	19,251	5,848

[a] No report.

[b] No inspection performed.

TABLE I-1.—*Antityphoid vaccination performed during the year*—Continued.

Province.	Numbers that have shown reaction.												Ratio per cent of vaccinated persons to total population.	Ratio per cent of unvaccinated persons to total population.
	Males.						Females.							
	First injection.		Second injection.		Third injection.		First injection.		Second injection.		Third injection.			
	Adults.	Children.	Adults.	Children.	Adults.	Children.	Adults.	Children.	Adults.	Children.	Adults.	Children.		
Abra														
Albay														
Antique														
Bataan														
Batanes														
Batangas														
Bohol														
Bulacan	95	36	85	36	85	36	69	27	63	26	63	22	0.10	99.90
Cagayan	101		10		1		5		5				0.05	99.95
Camarines Norte														
Camarines Sur														
Capiz														
Cavite														
Cebu														
Ilocos Norte														
Ilocos Sur														
Iloilo	193	15	171	9	141		35	20	17		4		0.09	99.91
Isabela			4						4				0.01	99.99
Laguna	22	6	17	4	12	3	19	11	14	3	13	1	0.04	99.96
La Union	3	1	3	1	1		1		1		1		0.01	99.99
Leyte														
Marinduque														
Mindoro														
Mountain Province														
Nueva Ecija	23	4	17	4	17	4							0.01	99.99
Nueva Vizcaya														
Occidental Negros														
Oriental Negros														
Palawan														

Pampanga	11	9	10	9	10	9	10	6	10	6	10	6	0.01	99.99
Pangasinan	557	21	565	10	520	30	329	18	309	14	298	10	0.26	99.74
Rizal	60	10					33	8					0.05	99.95
Romblon														
Samar														
Sorsogon							3		3		3		0.01	99.99
Tarlac														
Tayabas													0.02	99.98
Zambales														
Total	1,065	102	882	73	787	82	504	90	426	49	392	39	0.03	99.97

Other personnel already working in the hospital at the time were Miss Josefina Runez, nurse in charge of the hospital, Silvino Briones, nurse stationed at the office of the Division Superintendent of Schools at Cabanatuan, and Francisco Bunag, Provincial Assistant Sanitary Inspector ordered there by this office. All the above personnel was under the charge of the district health officer.

The work was then divided among this joint party. Dr. Lauengco was placed in charge of the hospital, Miss Runez, dietitian, and the other nurses were given alternate morning and night duties, all having their respective student assistants chosen from the student body. Assistant Sanitary Inspector Jorge David and two student assistants took their rounds morning and afternoon to detect possible cases of influenza in the whole block of dormitories; Assistant Sanitary Inspector Florencio Leoncio and one student assistant took charge of one-half of the dormitories of the independent farmers, situated in the outskirts of the schools, and Provincial Assistant Sanitary Inspector Francisco Bunag and one other assistant the other half.

Strict hospitalization of all suspected patients and the disinfection of the dormitories where the disease occurred were made, and mouth gargles of concentrated boric acid solution were administered to all affected students. Following this routine work, the disease was completely eradicated on November 5, and on November 12, the party returned to their former station.

After all and in spite of the work of the party and personnel of the Philippine Health Service, the Superintendent of the Schools seemed to look upon the work as a ridiculous matter rather than a benefit for the entire schools. He made the party feel that the service was not necessary, that the epidemic could have been eradicated by the personnel of the hospital alone without such party, and that the Government has incurred useless expenses when such expenses should have been more profitably expended in other places where there existed more sickness. With such an indifferent attitude of Mr. Moe, he was made to understand, however, that right in his school he has all the conditions favorable for the spread of influenza. With such an overcrowding of the dormitories, insanitary water supply and poor sewage disposal and lastly with the poor food given to students, who have to perform daily mental and manual labor, resulting in a low general body resistence and all falling an easy prey, the disease would have easily spread if no measures had been adopted for its prevention.

Furthermore, on November 4, 1920, there occurred in the same school sixty-eight cases of beriberi among the students, mostly of the dry type. The cause was accounted by the supply of white rice. Cases of beriberi began to register four months after the unpolished rice mill was put out of order, made worse by the poorly prepared foods for the students. These students were immediately placed under antiberiberi foods and medicines, and the cooking and relish of the foods were improved; and in less than a month, the disease almost disappeared completely. To this effect, the district health officer gave a lecture in the cine of the school on December 14, on the subject with about 500 students in attendance.

WATER SUPPLY.

Two hundred twenty-nine artesian wells, 4,372 sanitary dug wells and 30 water works were newly established in the provinces during the year, which means a great improvement in

TABLE Q.—*Water supplies.*

Province.	Total population.						Sanitary dug wells.				Waterworks.		
		Number at the end of 1919.	Drilled during 1920.	Closed during 1920.	In operation at the end of the year.	Population served.	Number at the end of 1919.	Dug during 1920.	Total.	Population served.	In operation during the year 1920.	In operation during the year 1919.	In operation eration during the year
Abra													
Albay	321,007	25	3	6	22	17,008	574	72	646	90,300			
Antique													
Bataan	56,168	148	16	6	158	50,300	240	3	243	3,336			
Batanes	8,382						27		27	5,925			
Batangas	342,980	111	9	3	117	127,700	(a)				2	2	
Bohol	361,232	42	2		44	35,384	3		3	974	5	5	4
Bulacan	248,464	245	12	1	256	129,615	5	8	13	507	1	1	
Cagayan	185,602						3	10	13	6,550			
Camarines Norte	51,267	10		7	3	(a)							
Camarines Sur	216,897	60	3	5	58	66,400	112		112	44,800			
Capiz	285,013	95			95	85,000	12	11	23	62,000	2		
Cavite	156,190	69			69	80,000	3		3	1,950	1		
Cebu	858,173	200	34	17	217	138,554		270	270	130,982	13	1	1
Ilocos Norte	215,771	14	11	9	16	9,544	362	1,187	1,549	13,589			
Ilocos Sur											1	1	1
Iloilo	501,834	29		2	27	7,402	190	153	343	73,844			
Isabela	109,636	6		5	1	510	20	19	39	15,363			
Laguna	193,984	160	7		167	169,084	115	27	142	9,700	6	3	1
La Union	160,923	3		2	1	800		3	3	500			
Leyte	601,806	15	1		16	8,463	361	346	707	114,479			
Marinduque	57,272	8			8	2,932	32		32	1,929	3		
Mindoro	60,071	15	3	5	13	7,720	113	75	188	10,565	1	1	1
Mountain Province	237,390	3	1		4	5,185		313	313	20,394			
Nueva Ecija	222,877	121	12		133	74,577	49	7	56	19,458			
Nueva Vizcaya	28,120	19	14	1	32	18,860	92	45	137	6,614			
Occidental Negros	389,593	245	23		268	104,400	193		193	6,430			
Oriental Negros	269,577	6	10		16	38,553	29	995	1,024	86,246	6		
Palawan													
Pampanga	256,182	311		14	297	134,500	9,860	38	9,898	96,662			
Pangasinan	561,871	158	9		167	95,056	26	4	30	1,438			
Rizal	226,670	176	17		193	164,519	38	28	66	3,822	1	1	2
Romblon	65,009	4			4						1	1	

TABLE L.—*Infant welfare*—Continued.

Province.	Number of dispensaries.		Number of baby contests celebrated.		Number of pueri-cultural centers submitting report, as per by-laws.	
	1919	**1920**	**1919**	**1920**	**1919**	**1920**
Abra	8	8	1	....	....	....
Albay	....	....	....	1	....	....
Antique	....	....	....	....	....	....
Bataan	....	....	....	1	....	....
Batanes	1	1	....	....	....	....
Batangas	1	1	....	....	....	....
Bohol	....	....	....	....	....	....
Bulacan	2	2	....	....	7	7
Cagayan	6	7	2	2	....	....
Camarines Norte	....	....	....	....	....	....
Camarines Sur	....	....	....	....	....	....
Capiz	1	....	....	3	....	....
Cavite	....	....	1	2	....	....
Cebu	2	7	2	13	....	....
Ilocos Norte	....	....	1	4	....	....
Ilocos Sur	....	....	....	....	....	....
Iloilo	2	2	3	1	....	1
Isabela	....	7	....	1	....	....
Laguna	1	3	3	2	1	2
La Union	....	1	1	1	....	1
Leyte	....	1	....	....	....	....
Marinduque	6	6	....	....	1	1
Mindoro	2	2	....	1	4	7
Mountain Province	....	....	....	....	....	....
Nueva Ecija	3	4	1	1	....	....
Nueva Vizcaya	1	1	....	....	....	1
Occidental Negros	2	2	3	....	2	....
Oriental Negros	2	2	1	2	....	....
Palawan	....	....	....	....	....	....
Pampanga	....	....	....	5	....	....
Pangasinan	26	31	6	5	1	1
Rizal	....	....	7	4	....	....
Romblon	....	....	....	....	....	....
Samar	....	1	....	....	....	1
Sorsogon	6	6	....	....	....	....
Tarlac	5	7	4	4	....	....
Tayabas	6	15	2	7	....	....
Zambales	....	....	....	....	....	....
Total	83	117	38	60	16	22

A notable increase has been noted in the number of women's clubs, maternity wards, dispensaries and baby contests organized. If the organization of women's clubs is admitted to be chiefly for the purpose of reducing infant mortality, under this circumstance, only few women's clubs can be considered as efficient. Among all the women's clubs, the women's club of Cabanatuan in the Province of Nueva Ecija is ahead of them all, with the woman's club of Cebu following as second place.

WORK DONE BY THE DISTRICT NURSES DURING THE YEAR.

Although the number of district nurses employed in the present year is practically the same as that in the past year, the work done by them in the present year was almost double that done in the past year.

TABLE M.—*Work done by the district nurses.*

Province.	Abortions.		Normal deliveries.		Dystocias.		Post partums.	
	1919	**1920**	**1919**	**1920**	**1919**	**1920**	**1919**	**1920**
Abra								
Albay		20		56		11		16
Antique			18					
Bataan	4		25		2		1	
Batanes								
Batangas		83		588		21		1,456
Bohol	2		9	1	2	1	2	
Bulacan	24	70	132	207	39	53	226	114
Cagayan	1	4	6	24		1		26
Camarines Norte								
Camarines Sur			4	11				
Capiz								
Cavite								
Cebu	4	16	1,691	1,564	24	17	30	11
Ilocos Norte								
Ilocos Sur	1	1	6	24	1	1		9
Iloilo	2	14	9	83		13		20
Isabela								
Laguna	1	1	35	10	3	1		9
La Union	3		2					
Leyte	2	47	1	2		1	6	1
Marinduque	1	1	2	16	3	5	17	59
Mindoro								
Mountain Province	7	7	37	46	1	10	8	4
Nueva Ecija	3	7	15	10		3	44	27
Nueva Vizcaya	17	3	94	112		4		10
Occidental Negros	37	15	147	41	17	1	30	17
Oriental Negros	1							
Palawan		4	30	6	3	1		1
Pampanga		1	27	12				
Pangasinan	2	12	61	49	5	4		30
Rizal								
Romblon								
Samar								
Sorsogon		10		12		10		1
Tarlac		6		22		2		5
Tayabas	16	67	1,159	1,164	33	35	961	56
Zambales								
Total	128	389	3,510	4,060	133	195	1,325	1,879

TABLE R.—*Disposal of excreta.*

Province.	Antipolo system ordinances.		Private.					
			Antipolo system in use.			Septic tanks in use.		
	In forces.	Pending.	1919.	Newly built.	Total, 1920.	1919.	Newly built.	Total, 1920.
Abra			88	45	133			
Albay	14		13,594	240	13,834	29		29
Antique	10		478	2,544	3,022	4	2	6
Bataan	1	8	69	93	162	2	3	5
Batanes	1	5	468		468			
Batangas	3	22	25	2	27	100	1	101
Bohol	36		46,587	729	47,316	9		9
Bulacan	11	10	447	26	473	65	6	71
Cagayan	9	14						
Camarines Norte			118		118	82		82
Camarines Sur	18	11	725	705	1,430	359	26	385
Capiz	25		2,423	49	2,472	22		22
Cavite	2	9	1,139		1,139	10		10
Cebu	26	10	84	1,914	1,998	174	50	224
Ilocos Norte	6	11	4	65	69	1		1
Ilocos Sur	2	22	22	29	51	19	30	49
Iloilo	6	17	71	497	568	538	209	747
Isabela	12		2,014	1,302	3,316	4		4
Laguna	24	4	1,342	522	1,864	303	198	501
La Union	5	2	346	9	355	3		3
Leyte	39	7	1,404	1,147	2,551	303	1	304
Marinduque	6		4,511	250	4,761	14	3	17
Mindoro	5	2	103	31	134	37	16	53
Mountain Province		5	41	53	94	48	4	52
Nueva Ecija	7	19	206	31	237	24	16	40
Nueva Vizcaya	6		40	1,198	1,238			
Occidental Negros	23	2	3,740	4,562	8,302	111	61	172
Oriental Negros	22		4,144	11,673	15,817	61	59	120
Palawan	6	1	107	26	133			
Pampanga	12	1	767	143	910	81	55	136
Pangasinan	19	12	4,756	125	488	290	3	293
Rizal	23	3	10,904	265	11,169	628	78	706
Romblon	3		23	2	25	1		1
Samar	12	17	25	19	44	16	15	31
Sorsogon	13	2	3,080	1,679	4,759	12		12
Tarlac	5	7	55	2	57	12	2	14
Tayabas	28	3	6,771	1,516	8,287	179	134	313
Zambales		10		9	9	1		1
Total	440	236	110,721	31,502	142,223	3,542	972	4,514

Province.	Public places, including markets, schools, hotels and municipal buildings.						Population serve.	Temporary sanitary closets at fiestas.
	Antipolo system in use.			Septic tanks in use.				
	1919.	Newly built.	Total, 1920.	1919.	Newly built.	Total, 1920.		
Abra	14	6	20	...	...	...	2,640	2
Albay	128	9	137	6	...	6	81,300	...
Antique	71	...	71	...	...	...	16,394	...
Bataan	6	...	6	1	3	4	2,800	2
Batanes	16	...	16	2	...	2	8,382	...
Batangas	14	...	14	43	...	43	14,635	19
Bohol	141	62	203	...	9	9	216,735	77
Bulacan	181	3	184	15	1	16	14,255	7
Cagayan	...	34	34	...	...	...	6,820	...
Camarines Norte	43	...	43	...	...	...	...	...
Camarines Sur	143	133	276	...	4	4	216,897	...
Capiz	202	49	251	...	...	...	7,450	28
Cavite	4	...	4	...	...	...	2,540	2
Cebu	25	71	96	9	5	14	...	51
Ilocos Norte	...	...	...	1	...	1	250	...
Ilocos Sur	13	20	33	...	5	5	4,360	3
Iloilo	63	188	251	254	127	381	23,679	...
Isabela	17	...	17	...	...	...	18,908	...
Laguna	46	9	55	12	6	18	27,200	9
La Union	8	16	24	...	...	...	2,674	4
Leyte	30	40	70	16	...	16	46,113	200
Marinduque	13	4	17	4	...	4	29,012	...
Mindoro	13	8	21	2	...	2	2,510	...
Mountain Province	9	43	52	3	5	8	2,277	...
Nueva Ecija	13	11	24	7	7	14	2,147	27
Nueva Vizcaya	...	64	64	...	...	...	23,964	12
Occidental Negros	125	...	125	6	...	6	72,800	...
Oriental Negros	...	119	114	...	...	...	53,071	...
Palawan	5	4	9	1	10	11	2,520	...
Pampanga	2	3	5	1	8	9	3,928	...
Pangasinan	40	15	55	1	...	1	10,831	19
Rizal	19	3	22	15	2	17	84,601	...
Romblon	12	1	13	...	...	...	4,563	7
Samar	53	49	102	1	5	6	15,162	...
Sorsogon	13	37	50	6	...	6	9,759	...
Tarlac	14	4	18	3	...	3	2,486	11
Tayabas	26	18	44	8	3	11	42,097	8
Zambales	...	39	39	2	4	6	5,338	14
Total	522	1,062	2,584	419	204	623	1,091,098	502

Also it can be noted that the majority of specimens examined are more especially for clinical rather than sanitary purposes. In order to make the laboratory work more extensive, several provinces appointed bacteriologists to take charge of their laboratories, and in this way water supplies, aërated waters, milk, ice cream, and other similar products, will be examined and in consequence more thorough work, from a sanitary standpoint, will be done by the provincial laboratories, and more effective campaigns against carriers of communicable diseases will be undertaken in the provinces.

MEDICAL RELIEF.

Two hundred and fourteen new public dispensaries were opened during the present year and twenty-two were closed, making a total of 867 in operation at the end of the year, as against 675 in operation at the end of 1919 and 517 at the end of 1918.

The emergency hospitals and isolation houses established in the provinces during the year, the infant welfare dispensaries, the dispensaries established by the Anti-tuberculosis Society, Women's Clubs, etc., are not included in Table K.

In the present year more surgical operations, either in adults or in infants, and more attendance at residence were given than in the past year, but this fact should be a natural sequence to the better health conditions observed in the present year because not having registered epidemics the technical personnel had more time for to attended the public dispensaries.

The difference noted in the number of patients attended at the dispensaries in the present year if compared with those attended at the dispensaries in the past year is so little (in spite of the better health conditions of the present year) that we may conclude that the health officers have been notably impulsed to give more and better attendance to the public dispensaries during the present year, resulting in consequence that the public recovered its confidence in the physicians and nurses attending the dispensaries due to the greater interest shown in attending them by said officials.

Practically every municipality has been provided with a dispensary placed under the charge of a sanitary inspector supervised by the presidents of sanitary division, but in the municipalities where the president of the sanitary division has his residence the dispensary is attended by him personally.

Where there is no qualified physician, few patients attended the public dispensaries, but on the other hand the number of patients attended is larger.

TABLE K.—*Condensed report of dispensaries.*

Province.	Consultations.		Treatments.		Operations.		Attendance at residence.		Total.		Public dispensaries.			
	Adult.	Infant.	Adult.	Infant.	Adult.	Infant.	Adult.	Infant.	Adult.	Infant.	In operation during 1919.	Opened during 1920.	Closed during 1920.	In operation at the end of 1920.
Abra	377	210	216	119	36	21	196	191	825	541	4	4		8
Albay	1,575	899	1,870	717	235	125	337	205	4,017	1,946	20			20
Antique	439	270			1				440	270	1	11		12
Bataan	993	499	124	76	27	15	106	71	1,250	661	9			9
Batanes	202	117	328	167			183	83	713	367	5	1		6
Batangas	1,266	700	1,578	1,932	33	7	627	504	3,504	3,143	4	21		25
Bohol	1,670	460	2,322	488	115	23	302	97	4,409	1,068	35			35
Bulacan	4,435	1,938	8,902	5,675	427	204	1,268	849	15,032	8,666	59			59
Cagayan	142	63	173	63	16	13	190	54	521	193	5	8	1	12
Camarines Norte	299	2	67	38	6	2			372	42	1	8		9
Camarines Sur	399	146	288	83	21	5	76	41	784	275	4	14		18
Capiz	4,850	5,170	2,938	3,124	170	106	3,297	3,574	11,255	11,974	30			30
Cavite	1,408	462	669	300	115	65	632	203	2,824	1,030	14	6		20
Cebu	1,840	487	1,595	332	78	18	768	425	4,281	1,262	31	25		56
Ilocos Norte	407	159	328	88	49	27	227	71	1,011	345	15			15
Ilocos Sur	1,206	475	881	301	107	39	586	566	2,780	1,381	19			19
Iloilo	4,159	2,324	1,402	734	158	108	1,242	886	6,961	4,052	34	2		36
Isabela	300	76	79	44	21	1	102	63	502	184	12		3	9
Laguna	1,444	789	653	192	36	33	577	386	2,710	1,400	26	2		28
La Union	562	406	466	256	6	5	1,448	318	1,482	985	13	1		14
Leyte	3,683	879	4,184	876	264	117	1,577	604	9,708	2,476	46			46
Marinduque	683	485	612	438	41	22	377	348	1,713	1,293	6			6
Mindoro	498	367	833	587	25	12	168	192	1,524	1,158	8	6		14
Mountain Province	12,581	2,316	19,369	4,365	70	20	2,653	1,207	34,673	7,908	31	1		32
Nueva Ecija	3,316	2,077	1,801	1,355	209	75	3,780	3,683	9,106	7,190	34	3		37
Nueva Vizcaya	1,442	663	3,571	2,149	119	50	983	470	6,108	3,332	4	2		6
Occidental Negros	2,691	943	3,715	1,212	317	168	706	464	7,429	2,787	26			26
Oriental Negros	1,680	689	1,296	258	39	16	587	172	3,602	1,135	11	11		22
Palawan	809	296	1,709	740	121	14	126	76	2,765	1,126	6	4	1	9
Pampanga	2,904	1,273	309	144	5	2	455	321	3,673	1,740	21	21		42
Pangasinan	2,427	693	2,248	837	168	64	347	200	5,190	1,794	26	20		46
Rizal	1,501	791	1,615	818	727	202	308	244	4,151	2,055	41		15	26
Romblon	148	28	13				12	8	173	36	1	9	1	9
Samar	1,282	687	1,663	748	66	15	630	295	3,641	1,745	14	15		29
Sorsogon	173	96	132	69	13	7	92	61	410	233	9	6	1	14
Tarlac	1,211	378	927	403	42	14	170	114	2,350	909	16	8		24
Tayabas	1,432	684	625	223	65	26	1,086	546	3,208	1,479	21	3		24
Zambales	2,416	600	1,860	536	116	40	492	192	4,884	1,368	13	2		15
Total	68,850	29,597	71,361	30,487	4,057	1,681	25,713	17,784	169,981	79,549	675	214	22	867

TABLE S.—*Sanitary markets and slaughterhouses.*

Province.	Number of markets in operation at the end of 1919.			Number of slaughterhouses in operation at the end of 1919.			Number of markets built in 1920.			Number of slaughterhouses built in 1920		
	With water supply.	Without water supply.	Total.	With water supply.	Without water supply.	Total.	With water supply.	Without water supply.	Total.	With water supply.	Without water supply.	Total.
Abra		2	2	1		1		1	1	1		1
Albay	6	10	16	2	5	7	3	1	4	1	1	2
Antique		6	6					2	2			
Bataan	6	6	12	1	1	2	4	5	9	1		1
Batanes		1	1	3	5	8		1	1	1	1	2
Batangas	6	8	14	6	7	13		1	1			
Bohol	6	32	38	4	33	37	2	3	5			
Bulacan	10	7	17	5	2	7	1		1			
Cagayan	2	12	14		11	11	1	11	12		2	2
Camarines Norte	1	5	6		1	1		5	5			
Camarines Sur	1		1	2		2				2		2
Capiz	2	38	40	3	35	38	1		1	2		2
Cavite	3	10	13		1	1		6	6			
Cebu	18	50	68	8	13	21	1	2	3	1	1	2
Ilocos Norte	4	13	17	4	13	17		13	13			
Ilocos Sur	3	18	21	7	18	25	3		3	7		7
Iloilo	13	55	68	7	26	33	3		3			
Isabela		4	4		1	1						
Laguna	4	3	7	2	4	6						
La Union	2	5	7	2	2	4		5	5			
Leyte	12	19	31	5	6	11		13	13	2		2
Marinduque	4		4	1		1		1	1			
Mindoro	1	1	2		1	1						
Mountain Province	3	4	7	3		3		1	1			
Nueva Ecija	6	15	21	5	12	17						
Nueva Vizcaya	2	5	7	2	5	7						
Occidental Negros	11	35	46	4	22	26						
Oriental Negros	4	18	22		22	22		18	18		18	18
Palawan		2	2		2	2		2	2		1	1
Pampanga	13		13	3		3	3		3			
Pangasinan	19	33	52	15	22	37						
Rizal	11	20	31	7	6	13	7		7	2		2
Romblon	1	7	8	1	4	5		4	4		3	3
Samar	7	29	36	4	21	25	2		2	3		3
Sorsogon	4	4	8	1		1	3	2	5			
Tarlac	5	10	15	4	10	14	2	3	5	2	5	7
Tayabas	7	6	13	8	8	16		1	1		7	7
Zambales	1	8	9	1	9	10		2	2	1		1
Total	198	501	699	121	328	449	36	103	139	26	39	65

TABLE T.—*Cemeteries: number, location, and classification.*

Province.	Number of cemeteries in operation at the beginning of the year.						Number of cemeteries open during the year.					
	Roman Catholic.	Filipino Independent.	Protestant.	Municipal.	Private.	Chinese.	Roman Catholic.	Filipino Independent.	Protestant.	Municipal.	Private.	Chinese.
Abra	14	5	.....	15	.....	.....	1	.....	.....	.....	.....	.....
Albay	29	2	2	8	.....	.....	2	.....	.....	.....	.....	.....
Antique	24	2	7	19	.....	.....	4	.....	.....	.....	.....	.....
Bataan	14	4	.....	5	.....	.....	.....	.....	.....	.....	.....	.....
Batanes	5	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....
Batangas	26	1	3	15	3	1	.....	.....	.....	.....	.....	.....
Bohol	57	12	2	77	.....	.....	3	1	.....	1	.....	.....
Bulacan	28	3	5	23	.....	.....	.....	.....	.....	1	.....	.....
Cagayan	17	9	4	34	3	4	3	.....	.....	6	.....	.....
Camarines Norte	9	.....	.....	6	.....	.....	.....	.....	.....	1	.....	.....
Camarines Sur	31	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....
Capiz	20	6	8	15	.....	.....	.....	.....	.....	2	.....	.....
Cavite	31	4	3	25	.....	.....	1	.....	.....	1	.....	.....
Cebu	89	5	9	27	5	2	3	1	1	.....	.....	.....
Ilocos Norte	12	8	2	18	.....	.....	1	1	.....	3	.....	.....
Ilocos Sur	26	10	8	19	.....	.....	.....	.....	.....	1	.....	.....
Iloilo	63	8	7	70	.....	.....	.....	.....	.....	.....	.....	.....
Isabela	27	14	2	7	.....	.....	.....	.....	.....	.....	.....	.....
Laguna	14	4	.....	24	3	.....	4	.....	.....	.....	.....	.....
La Union	11	.....	1	12	.....	.....	4	.....	.....	.....	.....	.....
Leyte	65	5	.....	26	.....	.....	.....	.....	.....	1	.....	.....
Marinduque	6	.....	.....	6	.....	.....	.....	.....	.....	.....	.....	.....
Mindoro	18	.....	.....	5	.....	.....	.....	.....	.....	.....	.....	.....
Mountain Province	17	5	3	91	.....	.....	.....	1	.....	6	.....	.....
Nueva Ecija	18	6	.....	34	.....	.....	.....	.....	.....	3	.....	.....
Nueva Vizcaya	7	3	2	9	.....	.....	.....	.....	.....	1	.....	.....
Occidental Negros	18	3	4	51	.....	.....	.....	.....	.....	.....	.....	.....
Oriental Negros	19	1	8	23	.....	.....	2	.....	1	.....	.....	.....
Palawan	9	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....
Pampanga	26	1	.....	31	5	.....	.....	.....	.....	1	1	.....
Pangasinan	41	10	5	44	.....	1	1	1	.....	3	1	.....
Rizal	34	8	2	29	.....	.....	2	1	.....	.....	.....	.....
Romblon	5	1	.....	15	.....	.....	.....	.....	.....	4	.....	.....
Samar	23	2	.....	8	.....	1	3	.....	.....	1	.....	.....
Sorsogon	40	.....	3	17	.....	.....	1	.....	.....	1	.....	.....
Tarlac	10	2	.....	21	.....	.....	.....	.....	.....	3	.....	.....
Tayabas	31	1	2	30	.....	.....	2	.....	.....	.....	.....	.....
Zambales	10	5	2	8	.....	.....	.....	.....	.....	1	.....	.....
Total	944	150	94	879	19	9	37	6	2	41	2	.....

TABLE T.—*Cemeteries: number, location, and classification*—Continued.

Province.	Number of cemeteries closed during the year.						Number of cemeteries in operation at the end of the year.					
	Roman Catholic.	Filipino Independent.	Protestant.	Municipal.	Private.	Chinese.	Roman Catholic.	Filipino Independent.	Protestant.	Municipal.	Private.	Chinese.
Abra							15	5		15		
Albay							31	2	2	8		
Antique							28	2	7	19		
Bataan							14	4		5		
Batanes							5					
Batangas	1						25	1	3	15	3	1
Bohol	2	1		1			58	12	2	77		
Bulacan							28	3	5	24		
Cagayan	2						18	9	4	40	3	4
Camarines Norte							9			7		
Camarines Sur							31			2		
Capiz	1						19	6	8	17		
Cavite	1						31	4	3	26		
Cebu				1			92	6	10	26	5	2
Ilocos Norte							13	9	2	21		
Ilocos Sur							26	10	8	20		
Iloilo							63	8	7	70		
Isabela							27	14	2	7		
Laguna							18	4		29	3	
La Union	3			3			12		1	9		
Leyte							65	5		27		
Marinduque	1						5			6		
Mindoro	1						17			5		
Mountain Province	1	2		4			16	4	3	93		
Nueva Ecija	1						17	6		37		
Nueva Vizcaya	1						6	3	2	10		
Occidental Negros							18	3	4	51		
Oriental Negros	1			1			20	1	9	22		
Palawan							9			2		
Pampanga							26	1		32	6	
Pangasinan	1			1			41	11	5	46	1	1
Rizal	1						35	9	2	29		
Romblon							5	1		19		
Samar	3			1			23	2		8		1
Sorsogon							41		3	18		
Tarlac				1			10	2		23		
Tayabas	1						32	1	2	30		
Zambales	1			1			9	5	2	8		
Total	23	3		14			958	153	96	906	21	9

The number of sanitary orders issued in the present year is less than one-half of those reported in the past year, but this is due to the fact that in the past year, both verbal or written orders were reported in this table, but in the present year the district health officers were instructed that only the written orders should be reported.

The number of persons prosecuted was also less than in the past year. The explanation given by the majority of the district health officers with respect to this is that people complied with the orders in most cases and because the local governments as a rule gave more coöperation with the health officials on sanitary matters.

As in previous years complaints were received by several health officers with regard to lack of coöperation of municipal authorities in the criminal prosecution of the infractors of the sanitary municipal ordinances. At the request of the Service, the Philippine Legislature passed an Act giving more power to the health authorities in filling complaints before the courts. The provisions of the mentioned Act were indorsed to the district health officers by the following circular:

PHILIPPINE HEALTH SERVICE.

MANILA, *April 20, 1920.*

CIRCULAR
S-28.

To all District Health Officers, Presidents of Sanitary Divisions, Presidents of Municipal Health Districts, and Presidents of Municipal Boards of Health:

Attention is invited to the provisions of Act No. 2885 amending section 39 of Act No. 1627, which reads in part as follows:

SECTION 39. Section fifty-one of General Orders, Numbered Fifty-eight, series of nineteen hundred, is hereby amended so as to read as follows:

SECTION 51. *Complaint.*—Except as otherwise provided by law, criminal proceedings in a justice of the peace court must be commenced by complaint under oath setting forth the offense charged with such particulars as to time, place, person, and property as may be necessary to enable the defendant to understand the character of the offense charged, and to make answer thereto. Complaints for non-payment of the cedula tax and for infractions of municipal ordinances must be endorsed "approved" by the municipal president, but where infractions of laws or ordinances concerning the public health are concerned, the complaint must be so endorsed by the district health officer, the president of the sanitary division, the president of the municipal health district, the president of the municipal board of health or the municipal president.

Under the provisions of the above transcribed law, the officers of the Service therein mentioned are authorized to file any complaint against the infractors without the intervention of municipal authorities in every infraction of municipal sanitary ordinances.

TABLE U.—*Sanitary orders issued and persons prosecuted for non-compliance with sanitary orders, regulations, or laws.*

Province.	Number of sanitary orders issued.	Causes for which issued.							Result.						
		Insanitary premises.	Domestic animals.	Unprotected foods and drinks.	Disposal of excreta.	Barber shops.	Dance halls.	Other infractions.	Number of orders complied with.	Number of persons prosecuted.	Fined.	Sentenced to imprisonment.	Admonished.	Acquitted.	Pending.
Abra	59	50		3				3		56	33			23	
Albay	264	112	25	53	64	1	3	6	230	62	28	1	21	10	2
Antique	193	60	21	8	5			19	193	11	8			3	
Bataan	316	153	121		5			37	316	164	115	2	37	10	
Batanes	365	234		16	102			13	294	71	13		24	34	
Batangas	1,291	816	199	150	113	1		12	1,231		30		30		
Bohol	144	7		2	135				142	2	1			1	
Bulacan	1,291	381	490	139	9	9		263	1,194	97	64	1	26	6	
Cagayan	1,420	628	214	73	484	10		11	1,131	289	174	1	97	17	
Camarines Norte	(a)														
Camarines Sur	242	77	48	10	64			43	170	186	92		16	78	
Capiz	286	102	64	74	46				245	41	21	4	11	5	
Cavite	208	123	2		64			19	10						
Cebu	311		126	53	54			78	185	35	35				
Ilocos Norte	59				59					59	27	15	3	14	
Ilocos Sur	97	57	36	4					77	20	14		3	3	
Iloilo	3,484	1,928	326	440	319	100	17	359	569	259	90	26	87	56	
Isabela	19	14						5	19	19	15	1	3		
Laguna	1,604	450	289	163	633	38	2	29	1,132	90	70		7	13	
La Union	123	13	11	20	69	1		9	114	9	6	1	1	1	
Leyte	1,302	751	117	115	240	6		73	397	219	137	20	47	15	
Marinduque	322	7	37	124	154					322	24		298		
Mindoro	408	294	39	18	5			52	317	91	91	11	3	77	
Mountain Province	525	279	136		106			4	224	301	25	12	237	27	
Nueva Ecija	216	66	61	40	20	13		16	148	43	5	11	27		
Nueva Vizcaya	3,528	1,819	346	316	991			56	3,405	123	92	4		27	
Occidental Negros	163	27		4	29			103		163	78	4	72	8	
Oriental Negros	108	23	1	4	31	1		10	68	58	43	4	9	2	
Palawan	27	15	6	1	5				26	1	1				
Pampanga	278	3	28	246				1	278	278	163	10	62	16	27
Pangasinan	368	62		42	238	2		24	216	121	20	5	96		
Rizal	3,407	1,095	582	133	1,239	117	2	233	1,644	396	56		339	1	

Romblon	52	38	1	......	......	......	......	13	52	8	4	4	4	......	......
Samar	159	85	11	17	21	5	......	20	112	93	20	38	7	28	......
Sorsogon	674	525	4	7	135	......	......	3	674	16	16	......	......	......	......
Tarlac	35	18	......	7	7	1	......	2	34	9	7	......	2	......	......
Tayabas	1,326	287	99	97	762	45	5	31	471	190	122	......	48	20	......
Zambales	1	......	......	......	......	......	......	1	......	1	1	......	......	......	......
Total	24,675	10,599	3,440	2,379	6,208	350	29	1,548	15,319	3,903	1,661	167	1,691	418	29

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[a] No report.

This office hopes that the officers concerned will exercise with ability the authority conferred upon them by the new law, especially in the campaign undertaken at present in the provinces for sanitary disposal of excreta and refuse as well as for the eradication of communicable diseases.

(Sgd.) S. V. DEL ROSARIO,
For and in the absence of the
Acting Director of Health.

The approval of Act 2885 has been a great benefit to the Service, because by means of it the health officer can prosecute, independent of political influence, infractions against public health ordinance, although many health officers have not made sufficient use of same.

PUBLICITY.

Less work was done in this matter in the present year if compared with that done in the past year, as can be deduced from Table V of this report and Table X of the report for 1919.

The explanation of this fact is that in the present year the publicity work was carried on with more intensity, by way of exhibitions on occasions of *garden day* rather than by lectures given in barrios or other places.

This office directed all district health officers of the Service that they give the fullest coöperation to the Bureau of Education in making the garden days a success, exhibiting on such occasions sanitary exhibits as has been done in previous years.

On garden days not only lectures regarding health matters, but especially exhibitions on such subjects were given by the health officers in parades and on the grounds of the gardens where the celebrations were held.

In the Province of Cebu in the month of June, a "Petit Carnival" was celebrated. The local health department took part in this fiesta and among other things, a closet of the Antipolo system was exhibited, comparing it with the old insanitary pit and with the obnoxious system of disposal of waste by means of pigs. Explanatory cards written in big type were posted, criticizing the old style and recommending the new system.

Frames, films, posters and pamphlets on sanitary matters were sent by the Central Office to those provinces most accessible to the capital to be exhibited and distributed on the occasion of garden days.

These methods, taken as a whole, will serve to enlighten the public on hygiene and sanitation, and in this way the problem of prevention of diseases will ultimately be solved.

TABLE V.—*Publicity campaign.*

Province.	Lectures given.									Attendance.
	In schools.			In barrios.			In other places.			
	District Health Officers.	Presidents of Sanitary Divisions.	District Nurses.	District Health Officers.	Presidents of Sanitary Divisions.	District Nurses.	District Health Officers.	Presidents of Sanitary Divisions.	District Nurses.	
Abra	1	46			49			4		(a)
Albay		97	8		73	7		20	67	31,350
Antique	12	37		22	39					10,788
Bataan		5					2	4		9,200
Batanes	6									821
Batangas						510			3,847	13,790
Bohol		49		6	74			4		10,970
Bulacan	19	74	69	39	124	1,398	17	49	519	19,490
Cagayan		23	11		11		2	15		17,376
Camarines Norte								2		200
Camarines	1		2			2	2	1	64	450
Capiz	10	12			18					4,610
Cavite				22			3			1,305
Cebu	2		1				4	9	118	(b)
Ilocos Norte		28			13			7		2,877
Ilocos Sur	1	114	10	4	105	4	40		8	31,330
Iloilo		140			158			161		15,054
Isabela	29	133						3		(a)
Laguna		50		3	67		1	77		14,682
La Union		45			97			37		7,980
Leyte		23			23			9		16,284
Marinduque	2	19		17	41		16	4		9,300
Mindoro	24	10		11	28		19	31		850
Mountain Province	20	58	5	30	30		12	66	4	19,000
Nueva Ecija	26	77	4	12	37		2	13		12,653
Nueva Vizcaya	22		10	25		606				3,170
Occidental Negros	(b)									
Oriental Negros		4			2		7			1,670
Palawan	2		9	17		19	13		7	(a)
Pampanga	16	55	12		125	51				8,246
Pangasinan	3	34			38	14		13		11,526
Rizal		12			10			8		1,158

[a] The number of attendance is not reported.

[b] Not reported.

TABLE V.—*Publicity campaign*—Continued.

Province.	Lectures given.									Attendance.
	In schools.			In barrios.			In other places.			
	District Health Officers.	Presidents of Sanitary Divisions.	District Nurses.	District Health Officers.	Presidents of Sanitary Divisions.	District Nurses.	District Health Officers.	Presidents of Sanitary Divisions.	District Nurses.	
Romblon	3			10			3			3,200
Samar	1	75			87			22		14,480
Sorsogon	6	49		8	51	2	1	1		9,830
Tarlac		59	66		18	10		7	79	11,210
Tayabas	8	112	1	3	120	48		41	9	28,720
Zambales	1	5		2	12		1	4		3,832
Total	215	1,445	208	231	1,450	2,671	145	612	4,722	347,402

CLEAN-UP-WEEK.

Clean-up-week in the present year was celebrated during the period of from December 13 to December 18, and also under the direction of the Public Welfare Board.

Said Board issued the following circular:

PHILIPPINE HEALTH SERVICE.

MANILA, *November 1, 1920.*

CIRCULAR }
S-59. }

To all Chiefs of Divisions, District Inspectors, District Health Officers, and other officers in the Service.

For your guidance there is transcribed herewith, a Circular issued by the Public Welfare Board with reference to Clean-up-Week:

Following the practice of the previous years, the Public Welfare Board has designated December 13 to 18, 1920, as Clean-up-Week throughout the Philippine Islands.

Clean-up-Week which was expected to be a public welfare feature has not been successful in the past. This was probably due to the lack of coöperation and interest on the part of everybody. The Board had tried to stimulate everybody in general by awarding prizes to any organization such as Public Schools, Women's Clubs and other charitable and social institutions in any towns or municipalities which showed the greatest effort to have the greatest number of houses and lots cleaned and improved.

It may be stated that out of the 47 provinces of the Philippine Islands, there were only ten that responded to the call of Clean-up-Week last year.

This year the Public Welfare Board will again award prizes amounting to ₱100 to any organization, such as the public school, women's club, or any other charitable and social institution in a town in each province, which will make the best effort to have the greatest number of houses and lots cleaned and improved. By this means it is hoped that Clean-up-Week may be carried out to a successful end this time. A Provincial Committee consisting of the Provincial Governor, District Health Officer and the division Superintendent of Schools, shall supervise the contest in each province. The contest shall be conducted according to the conditions set forth in the attached paper.

It is therefore earnestly requested that the Chiefs of Bureaus, provincial governors, municipal officials, and presidents of the various charitable and social organizations, and public spirited individuals will use their influence to bring before the public the importance of, and the benefit that could be derived from such a movement.

A program should be prepared asking that all houses, yards, esteros, streets and public places throughout the Islands have a general Clean-up-Week during the period designated above, that such repairs, painting, and renovations of buildings and fences as may be necessary shall be made, and that yards and gardens be beautified by planting trees, shrubs and flowers as well as making other desirable improvements. Every one knows that clean surroundings are conducive to clean living. In view of this fact, it is believed that this movement deserves the hearty coöperation of public officials and persons in private life.

Report of the contest in each province should be forwarded to this office by the chairman of the Provincial Committee not later than January 31, 1921.

By order of the Board:

(Sgd.) M. R. CRUZ, M. D.,
Acting Secretary.

A PRIZE OF ONE HUNDRED PESOS WILL BE AWARDED TO ANY ORGANIZATION IN A MUNICIPALITY OR TOWNSHIP IN EACH PROVINCE, WHICH DURING THE CLEAN-UP-WEEK (FROM DECEMBER 13, TO DECEMBER 18, 1920, INCLUSIVE) SHALL BE THE MOST INSTRUMENTAL IN MAKING THAT TOWN WIN THE CONTEST ACCORDING TO THE CONDITIONS HEREIN STIPULATED.

Any organization which will make an effort and take an active part in obtaining the greatest number of houses and premises and vacant lots cleaned in its town can receive the prize as a whole or in part, with other organizations which shall have coöperated with the former. The Public School, the Women's Club, and other social or charitable institution established in the locality may assume the local leadership in the contest.

The Public Welfare Board will delegate the supervision of the work of Clean-up-week to a town committee consisting of the following:

1. The Municipal President, *Chairman,*
2. The Principal of the Central or Primary School,
3. The Local Health Officer,
4. The President of the Woman's Club or of other charitable or social organization of the locality, and
5. A member, to be appointed by the preceding four.

Each house and its respective yard located in the heart of the town, which will be repaired purposely to enter the contest and which will be cleaned to the satisfaction of the town committee during the period of Clean-up-week is counted as one unit. Likewise any vacant lot cleaned during that week will be counted as another unit.

The percentage of houses, premises and vacant lots cleaned and improved during the week shall be obtained from the total number of houses and lots in the town. A town committee shall report the result of the contest in their locality to the provincial committee which will then investigate and compare the results as reported by the three towns giving the highest average of houses and lots cleaned or improved.

The provincial committee shall consist of the following:

1. The Provincial Governor,
2. The District Health Officer, and
3. The Division Superintendent of Schools.

After the provincial committee shall have verified the reports submitted by the town committees, they shall make public the town winning the contest. By special arrangement, the Public Welfare Board will issue checks payable to the Provincial Treasurer of each province who in turn will deliver the ₱100 prize whole or divided to the organization or organizations (schools, clubs, social or charitable societies) which shall have won the prize.

It is hereby directed that all officers and employees in the Philippine Health Service give their fullest coöperation toward making "Clean-up-week" a success.

(Sgd.) V. JESUS,
Acting Director of Health.

Clean-up-week ended with success, many municipalities taking an active part therein, but not all. As in the past year, the public schools played the principal part in this social duty.

MISCELLANEOUS.

(*a*) Annual conventions of the presidents of sanitary divisions and nurses were held in various provinces. In almost all provinces near Manila a representative of the Central Office was present. In these convention matters pertaining to rural sanitation and health organization or reorganization were treated and discussed, adopting resolutions for a better sanitary service.

(*b*) To the end that the scientific standard of the commissioned officers regarding sanitary matters be improved, the following circular was issued:

PHILIPPINE HEALTH SERVICE.

MANILA, *August 27, 1920.*

CIRCULAR
S-59.

To all Health Officers of the Service:

The attention of the health officers, especially of those who are commissioned officers in the Service, is hereby invited to the following extracts, transcribed from a letter of the District Health Officer of the 12th Health District, Nueva Ecija, for their information and guidance:

The University and Bellevue Hospital Medical College of New York University is giving a correspondence course in public health, leading to the degree of Certificate in Public Health (C. P. H.) for the benefit of the Health Officers.

The entire course shall be completed within a year of the time of enrollment, but owing to the great distance that the Philippine Health Service Officials are from headquarters, they will have an opportunity to complete the course within a reasonable time. It also requires that the last week of the course will be devoted to resident study for practical laboratory work, but it may be arranged to work in any reliable laboratory in the Philippine Islands for the period of one week, and a certificate for such an attendance be submitted afterwards to the authorities of the college.

The fee for the whole course is ₱100. In New York State, every health officer is obliged to take the course. The lessons which are regularly distributed are based mostly on the text books recommended to the Philippine Health Service officials for reference, such as Rosenau's Preventive Medicine and Hygiene and Manual for Health Officers by MacNutt.

The undersigned is a student enrolled for this course. While the work deals with subjects not new to every health officer, yet, it is very practical and aids the health officers to freshly recall the important points that they have to meet in their every day work, especially in dealing with some of the dangerous communicable diseases. For example, it could be recalled to mind from the course the difficulty in preventing the spread of measless because "it is one of the most highly communicable of all infections and also that it is most contagious during the preëruptive stage," or that "a strict isolation or quarantine in typhoid fever is unnecessary because the infective material is not air-borne, nor spread by droplets of saliva or nasal mucous, nor by ordinary dust from dried material, but from excretions of the intestines and bladder."

Those desiring to take the course of instruction should apply to the Director, the University and Bellevue Hospital Medical College of the New York University, 26th Street and First Avenue, New York City, New York, U. S. A.

(Sgd.) TEÓFILO CORPUS,
District Health Officer.

This office believes that a greater efficiency in the Service could be obtained if the largest possible number of the health officers could acquire special knowledge in sanitation and perhaps the course of instruction outlined in the above transcription could give them the preparation desired.

(Sgd.) V. JESUS,
Acting Director of Health.

(*c*) The public baths in Marilao which is considered as a sanatorium due to its medicinal waters is under general repairs. The work will be finished about the month of May of next year, which is expected to result in a notable improvement in said settlement.

The Sibul Springs Sanatorium also was improved by establishing douches and other improvements. The water of this sanatorium is of the same quality as that of Marilao.

These two places are visited every year by many people coming from all the regions of the Archipelago.

(*d*) The automatic health control system which was already explained in the annual report for the year 1918 (pages 144 to 153) together with Provincial Form No. 67 (see pages 107 to 129 of the annual report for 1919) was carried out in all the provinces since January 1, 1920. Although there were certain irregularities in several provinces in its preparation, at the end almost all of them submitted the report properly prepared.

This system gives the health officers the most efficient *weapon* to prevent the development of an epidemic of any communicable disease.

(*e*) With reference to the coöperation of the provincial and municipal officials in health work, generally speaking, they have shown interest in health matters, and have always been willing to do all that could be done to help the sanitary organizations.

Also the Constabulary force and officials of the Bureau of Education have at all times, when requested, given all possible coöperation to the health authorities.

(*f*) For a more sanitary control over the laborers recruited by the Bureau of Labor, the following circular was issued:

PHILIPPINE HEALTH SERVICE.

MANILA, *December 11, 1920,*

CIRCULAR }
S-84. }

To all District Health Officers, Presidents of Sanitary Divisions and other Health Officers who are physicians:

The physical examination required in Circular Q-72, dated October 24, 1918, of all laborers recruited by the Bureau of Labor which shall also extend to the members of their families who intend to accompany them, shall be made only to determine their physical fitness and clinical symptoms for tuberculosis.

Prophylactic vaccination will also be made against smallpox, cholera and typhoid fever and paratyphoid fever.

The first injection of typhoid vaccine should be given at the recruiting point, at the same time as the anticholeric vaccine, and the second and third injections should be applied at the point of destination.

The district health officer at the point of destination should be notified of the names and number of laborers recruited, and the Director of Labor or his agents should be notified of the results of the examination.

The district health officer at the recruiting point shall also include in Table E "Miscellaneous" of the weekly reports the number of the rejected and accepted laborers who are physically examined during the week.

(Sgd.) V. JESUS,
Director of Health.

CLOSING REMARKS.

During the present year this Division has enjoyed fairly good health conditions. The population has increased, the death rate was lower than ever before, the births were greater in number than in the preceding year and the infant mortality rate was reduced.

Although smallpox, cholera and dysentery appeared, still they were soon wiped out. Some other communicable diseases were registered, but did not do as much damage as in previous years.

During the year there was much activity in the detection and apprehension of lepers scattered throughout the provinces. Extensive vaccination against smallpox as well as immunization against cholera and typhoid has also been accomplished.

All the provinces have at the end been reorganized uniformly and greater efficiency and activity has been developed in all the activities of the Service.

The only things that remain unsolved is: (1) The urgent necessity for a better schedule of salary for the health officers and nurses in order that a better selection of personnel can be made; (2) the centralization of the health fund; and (3) the organization of the "Training School" proposed in the previous year.

RECOMMENDATIONS.

The following recommendations are submitted:

First. *With reference to health organizations:*

(*a*) Incorporation of provincial and municipal health officers, nurses, sanitary inspectors and other provincial employees into the general organization of the Philippine Health Service.

(*b*) The employment of at least one district nurse for each two sanitary divisions.

(*c*) The employment of at least one sanitary inspector for every 3,000 people.

(*d*) The necessity that all Presidents of Sanitary Divisions be full time officers without private practice.

(*e*) The creation of the "'Training School of Sanitation" for commissioned and non-commissioned officers in the Service as already proposed in the year 1918.

Second. *With reference to the health fund:*

(*a*) That the municipal contribution to the health fund be fixed at 8 per cent of the general fund of the municipality without any exception, and the provincial contribution at 10 per cent of the provincial general fund, also without exception, and the centralization of this health fund.

(*b*) A more liberal traveling expense allotment for District Health Officers, because the health districts require a constant presence of the officers to supervise, verify, correct and direct the work of the personnel.

Third. *With reference to general sanitation:*

(*a*) Enactment of a Sanitary Code for the Philippine Islands.

(*b*) The creation in the Service of a division or section of epidemiology, infant welfare and publicity.

(*c*) That the control of public markets and slaughterhouses be placed under the control of the health authorities instead of the municipal treasurers.

(*d*) That no buildings or houses, either private or public, be permited to be used, unless they are provided with sanitary facilities.

(*e*) The establishment of infectious diseases hospitals in the City of Cebu, Tacloban, Lingayen, and Laoag.

(*f*) The establishment by the Bureau of Labor of emigrant and immigrant stations in which all laborers shall be subjected to a medical examination before allowing them to go to their points of destination.

(*g*) The organization of commissions composed of a health officer, a sanitary engineer and a bacteriologist, putting at their disposal sufficient funds to undertake a vigorous campaign against malaria.

(*h*) The creation of parties composed of a senior sanitary inspector and some carpenters to make more efficient the extention of the Antipolo system for disposal of excreta.

NOTE.—The idea of the organization of parties for a more efficient campaign for the disposal of waste was inspired from the reading of an article which appeared in the Public Health Reports issued weekly by the U. S. P. H. S., Volume 35–5, No. 45, November 5, 1920.

Said article in part reads as follows:

TYPHOID REDUCTION IN SOUTH CAROLINA

ORGANIZATION.

In 1917 the first county health unit was formed in South Carolina. This organization was perfected in Orangeburg County. The unit consisted of a physician as director, with a corps of inspectors and carpenters. Greenwood County also took up the work during the year.

TYPE OF WORK.

The ultimate object of the health unit was to stamp out typhoid fever and other intestinal diseases. The type of work was both educational and constructive. The physician gave lanternslide lectures in each school district on various health subjects, but stressed intestinal diseases spread by bad sanitation. The inspectors made a survey of the district, visiting each home and securing data as to living conditions of the family and sanitary surroundings of the home. Whenever possible the inspectors persuaded the householder to put in a sanitary privy; if the inspector failed then the physician made a personal visit to the home. The carpenters assisted in the construction of the privies. Specimens of feces were collected and examined for intestinal parasites, and when the patients were found to be infected they were given free treatment. By circulars, posters, personal letters, exhibits, school contests, public lectures, newspaper publicity and personal interviews, the importance of sanitation was constantly kept before the public.

REPORT OF THE DIVISION OF MINDANAO AND SULU

(Dr. JACOBO FAJARDO, *Chief of Division.*)

INTRODUCTORY REMARKS.

After two years of persistent and conscientious efforts, the confidence of the Mohammedans has been won to modern medicine and sanitation. It is fair to state that the work of hospitals and dispensaries in this Division has passed the trial stage, and that the remarkable success attained by the medical missionaries—for true missionaries and pioneers our physicians and nurses in this Division are—has convinced them of the benefits derived from the health institutions.

After having taken pains to prove to the Mohammedans that modern medicine is superior to their native art of healing, and after they have begun to fully realize the blessings of hospitals and dispensaries, we are now confronted with the grave problem of being compelled by lack of funds to lessen the health activities of this Division, to admit to the hospitals only a very limited number of free patients, and to limit medical supplies which heretofore have been sent to the dispensaries with more liberality. We have endeavored to win the confidence of our Mohammedan brothers, and now that we have won it, now that they seek our medical advice, now that they are eager to enter our hospitals for the alleviation of their ailments, we close the doors of the hospitals, we refuse them admission, we discontinue giving free medical treatment.

Towards the end of the year, several hospitals had to limit the number of free patients, and when overdrafts were incurred only emergency and pay patients were admitted. Sending medical supplies to the dispensaries had to be discontinued and the dispensary attendants ceased to make inspections outside their districts and render medical assistance where it was needed, simply because they no longer had any drugs, and the Government was not in a position to pay their traveling expenses and per diem. Such was the grim reality, and the outlook for 1921 is yet more gloomy.

There seems to be a growing tendency among certain Manila authorities not only *not* to increase but even to decrease the appropriations for the health activities of this Division. Such a policy will be disastrous in the extreme. On account of the present shortage of funds, the Mohammedans will now have to be charged for hospital or dispensary treatment just as the Christians are, if indeed the hospitals and dispensaries will not be entirely closed. Our Mohammedan brothers may take such a step as an exploitation and nothing else. They may think that the Government has invested thousands upon thousands of pesos to gain their confidence in the "Christian" medicine or "Christian" procedure of treatment, in order that in the future, when their confidence is already gained, they may be obliged to buy the "Christian" medicine or otherwise resort to the "Christian" hospital or physician. No stretch of imagination is required to realize that they may consider that the ultimate purpose of the Government in trying to conquer their confidence, is pecuniary profit. They may likewise believe that since Mindanao and Sulu was placed completely in the hands of "Filipinos" or "Bisayas,' as they generally call us, the Mohammedans have ceased to receive the blessing of hospitals, dispensaries, etc. Shall we allow the constructive labor of years to crumble to pieces?

The continued success of the hospitals and dispensaries has given this office a great satisfaction. There was a general increase in the number of patients admitted, in the number of operations performed and in the collections, *in spite of an unfortunate but necessary order* issued towards the end of the year to limit the number of patients on account of lack of funds and an impending overdraft. The policy of keeping a patient in the hospital for as short a time as possible was adopted in order to give room to as many patients as possible. The supervising surgeons were instructed to adopt the following motto: "The greatest good for the greatest number." The hospitals of Zamboanga, Sulu and Lanao incurred considerable overdrafts, and had to close their doors to indigent patients. In spite, however, of the ₱20,000 additional Insular aid which was allotted to this Division by the Central Office and apportioned thus: ₱10,000 for the Zamboanga General Hospital, ₱7,000 for the Sulu Public Hospital, and ₱3,000 for the Lanao Public Hospital, at the end of the year these hospitals still had considerable overdrafts. The strictest economy was exercised which economy will have to be followed during the coming year with greater assiduity. It is imperative and it is of the utmost importance that the appropriations for this Division be increased as there is yet room for greater service.

In general the increased number of patients entering the hospital is not an index of greater morbidity in a given place, but it is rather an index of the growing realization, especially among the Mohammedans, of the blessings of the hospitals.

The sanitary conditions of the Division during the year have been fairly satisfactory. With the exception of smallpox in Misamis, Bukidnon and Surigao there have been no serious epidemics in the department during the present year. The disease was present in the Province of Misamis throughout the year in a rather alarming proportion. Dried vaccine gave good results in this province and was always given preference where ice and transportation facilities were deficient or lacking. Unfortunately, however, the Bureau of Science was unable to supply all the vaccine needed and at most could fill only about 25 per cent of the requisitions.

House-to-house inspection is the most reliable means at present employed for the search of dangerous communicable diseases; other means are the telegraph, telephone, mail, etc. Any report or even rumor of the presence of a dangerous communicable disease was immediately investigated and preventive and suppressive measures instituted. In some places, the means of transportation is very poor. Some provinces, notably Surigao, Lanao, Sulu and Zamboanga, are in dire need of a launch, and unless more liberal appropriations are given to this Division this problem of inadequate transportation facilities will have to remain unsolved.

In general the provincial and municipal authorities coöperated with the health office. Exception should be made of the local authorities of Zamboanga who *misunderstood the drastic measures* taken by the district health officer which necessarily had to be taken in order to suppress the outbreak of dangerous communicable diseases such as typhoid fever, diphtheria, etc., and in order to institute sanitary measures or improvements, prominent among which was the adoption of the Antipolo system of closets.

While the psychology of a people should be taken into consideration, the good relations between the local authorities and the health office depend in great measure upon the health representatives in that particular place. Giving credit to whom is due, it gives this office pleasure to state that the district health officers of Agusan, Sulu, Cotabato, and Davao succeeded not only in maintaining good relations with the local, particularly the provincial authorities of their respective districts, but also in securing the hearty coöperation of the latter. With this idea in view the writer during his inspections and conferences with the officials of this Division, has given great emphasis on the necessity and importance of their maintaining the best relations possible with the municipal and provincial authorities, these good relations being the basis of the latter's coöperating with the health office. There is much truth in the statement that often the people object to sanitary measures instituted not because of the measures themselves but because of the procedure by which such measures are implanted.

By degrees the Mohammedans become more amenable to health rules and laws and they gradually take to them with more complaisance. In the way of educating and enligthening them along the modern procedures of promoting personal and community health, much has been done, but much still remains to be done.

ORGANIZATION AND PERSONNEL.

The status of the health organization of this Division remains essentially the same as that of the previous year. The district health officers continue to act as supervising surgeons, municipal health officers, and resident physician in places where there are hospitals. While this dual capacity has its advantages, it also has its disadvantages. One of the advantages is that the health officer as a hospital physician has the great opportunity of winning the confidence and friendship of the people through his medical services in the hospital. He also has the opportunity of demonstrating in the hospital in a practical way the correct mode of living. Having won the confidence of the people he is in a better position to enforce sanitation. One of the disadvantages is that during epidemics, the physician need to spend most of his time outside of the town and the hospital work has to be somewhat neglected; but for lack of appropriations and officers this practice has to be continued.

This office has been having continuous difficulties in securing personnel to fill positions and vacancies. People from the northern provinces are naturally cautious about living among warlike people who have been antagonistic to the Christians from their cradle. Remuneration is inadequate, means of amusement are often lacking, surroundings are new, association with a strange people is difficult, fear of "juramentados" or "running amucks" has not yet entirely vanished, and all these have made it difficult for this office to secure the services of physicians and nurses. Physicians and nurses coming to this Philippine frontier are contributing their mite to the great problem of amalgamating the Mohammedan and Christian Filipinos. This spirit deserves the highest commendation. Even after one has exposed himself to trials and dangers or has seen others even sacrifice their lives in the performance of their duties, this spirit did not waver, it did not shrink from duty.

One of the steps that this office has taken towards the solution of this problem of shortage of trained nurses, is the organization of a training school for nurses in connection with the Zamboanga General Hospital. The school, barring unforeseen obstacles, will be opened during the next school year. This school will be patterned after the Philippine General Hospital Training School for Nurses. In this connection it may not be amiss to state that the present requirement of the completion of the first year high school course for applicants seems to be untimely, for even before, when this requirement was not enforced the demand for nurses was greater than the supply. This office should not be understood, however, as advocating the lowering of the standard of nurses, but the supply should as far as possible equalize the demand. Moreover, the nurses who graduated under the old requirements have shown themselves to be entirely efficient and thoroughly versed with their duties. The principal, the teacher, the supervising nurses, etc., of the Philippine General Hospital, who are known to be rendering highly satisfactory service, and those who have taken post graduate courses in the States, and who have been able to hold their own with American nurses, are themselves generally *only intermediate* graduates and have not been required to fill the first year high school requirement before starting the study of nursing.

CHANGES IN THE PHYSICIAN PERSONNEL DURING 1920.

Senior Medical Inspector Vicente Kierulf, District Health Officer of Cotabato, was transferred to Occidental Negros, effective January 1, 1921.

Medical Inspector Mariano Atienza, Colony Physician of the San Ramon Penal Farm, left for the Manila Central Office on October 28, 1920, for new assignment.

Medical Inspector Constantino Limjoco, District Health Officer of Surigao, was transferred to Iloilo on April 1, 1920.

Medical Inspector Sulpicio Chiyuto, Colony Physician of the San Ramon Penal Farm, was assigned as District Health Officer of Zamboanga on April 12, 1920.

Medical Inspector Julian Pilares, District Health Officer of Agusan, was transferred to the Central Office, Philippine Health Service, on February 21, 1920, and retransferred to the Province of Agusan on August 9, 1920.

Senior Surgeon Francisco Tolentino, District Health Officer of Agusan, was transferred to the Central Office, Philippine Health Service, on August 8, 1920, and on September 1, 1920 was assigned as District Health Officer of Misamis.

Senior Surgeon Francisco Xavier, District Health Officer of Misamis, was transferred to Cebu on May 1, 1920.

Senior Surgeon Alfonso Raquel was assigned as District Health Officer of Misamis on May 1, 1920, and transferred to Cavite on September 1, 1920.

Senior Surgeon Severina Luna-Orosa was reinstated on May 15, 1920.

Surgeon Antonio Fernandez was assigned as District Health Officer of Surigao on April 1, 1920.

Surgeon Luis Lauchengco, Resident Physician of the Butuan Hospital, was transferred to the Central Office, Philippine Health Service, on August 10, 1920.

Surgeon José R. Castrillo, President of a Sanitary Division in the Province of Agusan, was transferred to the Central Office, Philippine Health Service, on June 16, 1920.

Surgeon Matias N. Sales, Resident Physician of the Lanao Public Hospital, resigned on June 1, 1920.

Dr. Mariano C. Icasiano was appointed Resident Physician of the Lanao Public Hospital on August 22, 1920.

Dr. Simeon B. Macasaet was appointed Resident Physician of the Davao Public Hospital on August 22, 1920.

Dr. Francisco Gomez was appointed Resident Physician of the Butuan Public Hospital on August 9, 1920.

Dr. Pedro Malvas was appointed President of a Sanitary Division in the Province of Agusan on June 22, 1920.

Dr. Celedonio B. Enriquez, President of a Sanitary Division in the Province of Zamboanga, resigned on December 1, 1920.

Dr. Manuel A. Suanico was appointed Assistant Resident Physician of the Zamboanga General Hospital on January 28, 1920.

VITAL STATISTICS.

Vital statistics may be considered to be "the bookkeeping of humanity." It is the foundation of all intelligent work in hygiene and sanitation. It furnishes the health officers with the best means of knowing the ravages of a disease in morbidity and mortality. The collection of correct vital statistics will ever be an important step in the conservation and promotion of public health. Without it health strategy is doomed to failure. Vital statistics in order to be of permanent value must need to be accurate and complete. In this Division great difficulties have been and are being encountered in securing vital statistics. The Mohammedans, especially, cannot see the importance of registering deaths, births and mariages, and so far, the Sultans, the "Imams" or the "Panditas" could not be compelled by the local authorities to register marriages performed by them. The Mohammedans consider the reporting and registering of births and marriages as an interference in their religious practices. Another difficulty is the lack of trained personnel to preach to the people the importance of death, birth and marriage registration and to enforce the same. The deaths, however, are being registered in practically every health district or sanitary division simply because no corpse can be buried without securing the corresponding death certificate. Vital statistics for this Division will be found under General Statistics.

With the exception of the provinces visited by smallpox there has been a low incidence of contagious diseases, a low morbidity, a low mortality and an appreciable increase of births over deaths, which facts warrant the conclusion that the population of this Division was greater at the end of the present year than at the beginning. The deaths reported in this Division include those due to cutting or piercing instruments, firearms, senility, diver's paralysis, accidental drowning, bite of animals (crocodiles, etc.), which are more or less beyond the reach of sanitation. The deaths also include those of transients.

The infant mortality was also generally lower. Parturients have gradually learned to enter the hospital or send for a physician or a nurse for delivery. Mothers have found it to be to their advantage to follow the physician's instructions regarding the care of children and to consult the doctors while there was yet time for a remedy. The same attitude explains the progressively decreasing percentage of deaths without medical attendance.

The statistical data of this Division, under General Statistics, include those based on the Christian population only, as those for non-Christians are incomplete or inaccurate. There are four fundamental causes explaining the relatively high infant mortality. These are (1) lack of sufficient knowledge of the care of children, (2) non-observance of personnal hygiene and (3) of community hygiene, and (4) poverty.

Inherited customs and habits may properly fall under reason one. People often say something like this: "My grand parents have lived to old age and have never employed a doctor. I myself, a small child, was taken care of by them in their usual old way. I have lively to this age and I am healthy and strong. Why deviate from the old customs and habits?" Such a course of reasoning is hard to uproot from the minds of the older people. As far as possible efforts were made to enlighten the masses regarding the care of children and personal and community hygiene. Lectures have been given to the school teachers on matters of hygiene and sanitation with a view to equipping them better to teach these subjects to their pupils. This office is contemplating the taking up with the Department Superintendent of Schools the organization of sanitary clubs in the highest classes of the schools in this Division under the supervision of the local health officers.

The principal causes of deaths among infants will now be discussed briefly. Infantile beriberi is more prevalent among Christians than among non-Christians simply because the Mohammedans fare more on fruits than the Christians, and fruits and vegetables are abundant in Mindanao and Sulu. The non-Christians include fruits, vegetables, and even fish and meat in the diet of their infants earlier than do the Christians. It is for this same reason that gastro-intestinal disorders are more frequent among the non-Christians. Education of the mothers along these matters and free distribution of tiki-tiki will accomplish great results.

Infantile debility is due mainly to (1) early marriage, (2) malnutrition, (3) chronic diseases like tuberculosis and malaria, and (4) venereal diseases.

Gastro-intestinal diseases and the diseases of the respiratory tract can almost wholly be attributed to ignorance or violation of health rules.

As the preventive measures against malaria have been freely discussed in the annual report for 1919, it will only be necessary for this office to emphasize the need of increasing the appropriations with a view to distributing quinine more freely.

HEALTH INDEX.

Senior Surgeon Gregorio Roque, who received practical instructions on health index in the Central Office, was sent to the various provinces of the Division to instruct the health officers thereof in the preparation of the health index. Four other district health officers had the opportunity of receiving practical instructions in Manila in the preparation of the health index. The same difficulties obtaining in the preparation of vital statistics apply with equal force to the preparation of the health index. The preparation of the health index, moreover, requires additional clerical assistance of the trained type. It also requires a great amount of patience and accuracy. Otherwise, the health index, as the *"health barometer"* will not be reliable. In practically every province a sort of sanitary census necessary for the preparation of the health index was taken, but lack of personnel, printed cards, and blank forms No. 67, caused the delay of the prompt submission of this report.

DANGEROUS COMMUNICABLE DISEASES.

SMALLPOX.

At the close of 1919, Misamis, Bukidnon, and Surigao were the only provinces of this Division remaining infected with smallpox. The infection in Misamis remained unchecked throughout the year, the acme of the epidemic having been reached in August, with 592 cases and 237 deaths; thereafter, the infection gradually declined registering during the year a total of 4,069 cases and 2,265 deaths or a mortality of 55.64 per cent. The lack of instructions by the district health officer of said province to the sanitary inspectors and vaccinators and the lack of supervision by him of their work account in great part for the unchecked spread of the disease. In the reports of the district health officer it appears that 250,000 vaccinations were made, but subsequent investigations revealed that only 131,700 were performed. Great difficulties were encountered in enforcing vaccination. The virus had to be sent first to Cebu and then to Misamis where there was no ice available. In the absence of ice, thermo bottles, banana leaves, etc., were used but at best the vaccine gave only 10 to 15 per cent positives. Added to this great handicap was the lack of resources of the province to maintain quarantine, to construct emergency hospitals, etc. In Cagayan an emergency hospital was built partly at the expense of the Women's Club and partly of the municipality and the province, and after a short existence was on the verge of being closed and only an aid from the Division Office prevented it from being actually closed. Dried vaccine gave good results in this province as well as in other provinces, generally speaking, and was always given preference where ice and transportation facilities were deficient or lacking. Unfortunately, the Bureau of Science was unable to supply all the vaccine needed and at best could fill only about 25 per cent of the requisitions. The epidemic was spread from Cagayan de Misamis to Bukidnon about the beginning of the year by infected persons in the outlying districts, moving to Bukidnon to evade quarantine. The epidemic attained its highest apex in this province in August. A total of 732 cases with 384 deaths was registered or a mortality of 52.45 per cent. The difficulties obtaining in the suppression of the epidemic in Cagayan de Misamis were also encountered in Bukidnon.

The smallpox epidemic in Surigao was the continuation of that of 1919. By August the epidemic was fairly under control, while in October there were only four cases and one death registered. During the month of December no case nor death was reported. With few exceptions the local authorities lent their hearty coöperation, especially the Constabulary and the Bureau of Education. A total of 561 cases and 151 deaths were registered. During the year a total of 46,623 anti-smallpox vaccinations was performed with a total of 20,182 positives.

Nineteen cases with 3 deaths were registered in the Province of Lanao. The first cases were reported from Kolambugan in January, these coming also from the neighboring coast towns of Misamis. Due to the vigorous measures taken by the district health officer, the outbreak was quickly suppressed. Eighteen cases with 3 deaths were reported from Agusan, the cases also coming from Misamis. Fortunately the outbreak was immediately checked due to the drastic measures taken by the health authorities.

The rest of the provinces of the Division were free from smallpox. The measures taken for the eradication of smallpox were vaccination, revaccination, disinfection, house and in some cases interbarrio or intertown quarantine, and isolation or hospitalization.

Smallpox, by municipalities.

	Cases.	Deaths.
Agusan:		
Butuan	18	3
Bukidnon:		
Malaybalay	1	0
Maramag	2	0
Mananum	159	44
Talacag	566	399
Claveria	4	1
Total	732	384
Cotabato:		
Cotabato	1	0
Lanao:		
Iligan	12	2
Kolambugan	7	1
Total	19	3
Misamis:		
Aloran	7	1
Baliangao	25	5
Balingasag	599	296
Cagayan	900	578
Catarman	19	4
Gingoog	31	14
Initao	890	439
Jimenez	1	0
Mambajao	199	81
Misamis	123	45
Oroquieta	4	2
Plaridel	14	1
Sagay	115	31

Smallpox by municipalities—Continued.

Misamis—Continued.	Cases.	Deaths.
Salay	395	252
Tagoloan	228	108
Talisayan	519	408
Total	4,069	2,265
Surigao:		
Surigao	4	0
Placer	3	1
Gigaquit	1	0
Dapa	90	35
Numancia	105	26
Cantilan	5	3
Tandag	109	25
Lanuza	180	42
Carrascal	64	19
Total	561	151
Zamboanga:		
Dipolog	4	0

TYPHOID FEVER.

Sporadic cases of typhoid fever were reported from practically every province of the Division, as follows:

Province.	Cases.	Deaths.
Agusan	3	3
Bukidnon	0	0
Cotabato	26	0
Davao	16	2
Lanao	12	8
Misamis	35	33
Sulu	14	1
Surigao	4	4
Zamboanga	17	9
Total	127	60

When the number of cases of typhoid fever was increasing in Zamboanga, an investigation disclosed that the former district health officer had not taken active measures to suppress the disease. As soon as the present district health officer, however, assumed his duties he made a vigorous campaign against the disease, and with the coöperation of the Zamboanga Central Laboratory and a few public spirited citizens, the disease was quickly suppressed. It was found that the Tumaga River from which the people of that barrio obtained their water supply, was highly polluted with bacteria of the intestinal flora. Steps were therefore taken to supply the barrio with water by extending the water supply of the City of Zamboanga to Tumaga by the gravity system. In every province where typhoid fever was registered anti-typhoid vaccination was performed with very encouraging results. Practically all the cases registered in the Division were hospitalized.

DYSENTERY.

A total of 790 cases with 235 deaths was registered during 1920, as against 1,022 cases with 254 deaths for 1919. Unless the municipal councils and provincial boards appropriate more liberal amounts for artesian wells or sanitary pump wells for the most populous districts or settlements of the Division, or unless Insular aid for this purpose be secured, it is sad to estate, dysentery and other water-borne diseases will continue wreaking havoc in this Division. On account, however, of the present money stringency it is very doubtful if the necessary appropriations can be secured for water supplies. Safe disposal of excreta is only one-half of the problem of eradication of water-borne diseases. It is well, however, to state that a total of 7,541 new Antipolo closets have been constructed in the Division during the year.

Antipolo closets, by provinces.

Province.	Antipolo system ordinance.		Private.			Public.			Grand total.
	In force.	Pending.	Total at end of 1919.	Built in 1920.	Total.	Total at end of 1919.	Built in 1920.	Total.	
Agusan	1	....	2,196	165	2,361	17	....	17	2,378
Bukidnon	6	....	58	168	226	22	14	36	262
Cotabato	9	....	473	282	855	2	4	6	861
Davao	....	11	339	438	777	....	5	5	782
Lanao	2	1	30	166	196	....	....	....	196
Misamis	....	....	8,414	2,026	10,440	16	13	29	10,469
Sulu	....	1	....	1	1	....	....	....	1
Surigao	14	....	15,048	3,453	18,501	24	31	55	18,556
Zamboanga	4	....	1,548	675	2,223	....	....	....	2,223
Total	33	13	28,106	7,474	35,580	81	67	148	35,728

CHOLERA.

One case of cholera was registered during the year in the entire Division and that was in the City of Zamboanga on May 9, 1920. The case was promptly isolated in the contagious pavilion of the Zamboanga General Hospital. Culture from the feces showed a non-agglutinable organism but culturally and morphologically identical with cholera vibrio. All contacts were vaccinated and fortunately no other cases followed. All the third class passengers of all the boats touching Zamboanga and Davao, especially the immigrant laborers and settlers, were examined to determine whether they were carriers. Out of 3,712 swabs examined, 32 were found to contain cholera vibrio.

One hundred and three persons were vaccinated with locally prepared anti-cholera vaccine and none showed, except slight local or general reaction. Two cholera carriers among the immigrant laborers were discovered, both of whom had been vaccinated previously in Manila against cholera.

DIPHTHERIA.

About the middle of May a case of diphtheria was reported in the City of Zamboanga, the diagnosis of which was supproted by bacteriological examination. After the patient's recovery, the bacilli persisted for about six weeks in the throat. Another case occurred which resulted fatally. Two children and one adult contacts carried the bacilli in their throats from 4 to 8 weeks. A survey of three school houses in the vicinity of the house where the second case occurred showed one carrier out of 139 children examined. All immigrant settlers and laborers were also examined for diphtheria bacillus and if found positive, the district health officer took the necessary steps to isolate or hospitalize the case. One such carrier subsequently developed the disease.

TRACHOMA.

An active campaign was instituted against trachoma; several cases have been operated on in the Zamboanga General Hospital.

VENEREAL DISEASES.

A total of 240 cases of gonorrhœa and a total of 83 cases of syphilis were registered in the Division during 1920, against 193 cases of gonorrhœa and 71 cases of syphilis for 1919. There are many reasons explaining the prevalence of venereal diseases in this Division. Where poligamy exists, morals seem to be lax, and this is true of Midanao and Sulu, where adultery is present and prostitution rampant. It is indeed surprising that this should be the case in a place where a man is entitled to four wives and as many concubines as he can support. It is not rare to find girls of 15 or even as young as 12 years of age engaged in the disgraceful trade of prostitution, and there are cases in which parents were willing to sell the virginity or purity of their daughter for even as low as a few pesos. While poverty partly accounts for this sad state of affairs, as just hinted, lax morals are mainly responsible for it. Added to this is the almost total absence of any knowledge of training on sex education. Ignorance of sex matters often has had to be paid for with a dearly bought lesson. General education and more particularly along sex matters will certainly be of untold value, for it is only in this way that we can raise the moral standard of a community and warn it of the dangers and pitfalls of ignoring or violating sex rules. In one of the provinces of the Department, a lecture was prepared on sex education originally intended for teachers, with the hope of reaching the masses through the school children. The prosecution of prostitutes has not given good results. At best the results, if any there had been, were temporary and as already stated, education is the only means which will render satisfactory and permanent results.

Gonorrhœa, by municipalities.

	1920		1919	
	Cases.	Deaths.	Cases.	Deaths.
Agusan:				
Butuan	3	0	......	......
Bukidnon:				
Impasugong	1	0	......	......
Cotabato:				
Cotabato	9	0	7	0
Parang	3	0	0	0
Total	12	0	7	0
Davao:				
Caraga	2	0	......	......
Davao	43	0	14	0
Total	45	0	14	0
Lanao:				
Dansalan	17	0	17	0
Iligan	2	0	10	0
Malabang	4	0	2	0
Ditzaan	1	0	......	......
Tamparan	......	......	4	0
Ganassi	......	......	1	0
Tagaya	......	......	2	0
Total	24	0	36	0
Misamis:				
Cagayan	18	0	22	1
Oroquieta	3	0	2	1
Total	21	0	24	2
Sulu:				
Jolo	76	0	56	0
Bongao	......	......	1	0
Siasi	4	0	3	0
Cagayan	4	0	2	0
Parang	2	0	2	0
Pañgutaran	1	0	......	......
Tulayan	......	......	1	0
Bilaan	......	......	2	0
Total	87	0	67	0
Surigao:				
Surigao	11	0	9	0
Placer	5	0	6	0
Dinagat	2	0	4	0
Gigaquit	3	0	5	0
Bacuag	1	0	......	......
Cantilan	2	0	3	0
Carrascal	5	0	2	0
Total	29	0	29	0
Zamboanga:				
Dapitan	11	0	3	0
Dipolog	4	0	13	1
Lubungan	3	0	......	......
Total	18	0	16	1

Syphilis, by municipalities.

	1920.		1919.	
	Cases.	Deaths.	Cases.	Deaths.
Cotabato:				
Cotabato	1	0	....	....
Parang	1	0	....	....
Pikit-Pagalungan	1	1	....	....
Glan	1	0	....	....
Total	4	1	....	....
Davao:				
Davao	4	0	....	....
Lanao:				
Dansalan	20	0	10	0
Misamis:				
Cagayan	1	0	30	0
Tagoloan	1	1	2	0
Initao	4	1	....	....
Oroquieta	1	0	....	....
Mambajao	1	0	....	....
Total	8	2	32	0
Sulu:				
Jolo	27	0	12	0
Bongao	4	0	5	0
Camp Andres	1	0	....	....
Total	32	0	17	0
Surigao:				
Surigao	4	0	1	0
Placer	1	1	1	0
Gigaquit	....	....	1	0
Cantilan	....	....	1	0
Lanuza	....	....	1	0
Hinatuan	2	0	3	0
Total	7	1	8	0
Zamboanga:				
Dapitan	8	0	4	0

LEPROSY.

The separation of husband from wife or children from parents is always painful anywhere. But difficulties concomitant with the enforcement of the segregation of lepers are enhanced in a place like Mindanao and Sulu, where the population is averse to any interference by the Government in what they consider legitimate family affairs, among a people who have had a practically independent existence for over three hundred years, among a people antagonistic to Christian and refractory to what they consider a "Filipino" rule. More than once the lives of those who have tried to enforce leper segregation have been menaced, and in at least two instances the minions of the law had to resort to bloodshed, the parents or the lepers themselves resisting with arms. Added to these difficulties are deficient transportation facilities, lack of proper isolation houses and the fact that leper collection takes place months after the segregation, as also the fact that the leper boat seldom arrived on scheduled time, in several instances coming several months behind the schedule, and in the meantime the impatience of the lepers and the ire of their relatives augmenting. This fact was brought to the attention of the Director of Health. In the provinces of Lanao and Sulu, the segregation of lepers had to be enforced passively, the provincial authorities fearing the repetition of another Pata. Five lepers from Lanao escaped from Culion and their whereabouts has already been located, but as yet they have not been segregated. The district health officer offered the Datus ₱5 for every confirmed leper delivered to the health office, but it was without result. It should be recalled that in Sulu the relatives of a leper resisted the Constabulary with arms resulting in the death of several persons. More recently in the same province a leper who was being conducted to the City of Jolo when approaching the town claimed that he was thirsty, and requested the guards to allow him to quench his thirst by drinking coconut water. The guards consented, but when the leper got hold of the bolo, which was to be used for opening the coconut, he suddenly ran amuck and tried to kill one of the guards, who was hit on the head but fortunately was able to parry off the next stab, and while doing so the other soldiers fired at the leper killing him instantly.

While, however, the separation of husband from wife is painful, leaving a leper or having a leper for a neighbor is becoming more and more disagreeable and loathsome among the Mohammedans, and most of the lepers segregated to date have been reported or denounced to the health office by their neighbors or perhaps enemies, but while this attitude is helpful to the Government it is at least in part counteracted by the efforts of friends and relatives to hide the leper. Municipal district officials in their majority, Datus and Panglimas, have also been known to hide lepers perhaps through sympathy or bribery.

VACCINATION.

ANTI-SMALLPOX.

A total of 272,926 vaccinations against smallpox with a total of 107,750 positives has been performed during the year, compared with a total of 392,771 vaccinations with a total of 165,271 positives in 1919. The difficulties encountered in the enforcement of vaccination have already been enumerated and no longer need further emphasis. Generally speaking, dried vaccine gave far better results than the ordinary fresh vaccine virus and this office has been using the dried virus in regions where transportation facilities are poor and where ice is not available. There seems to be no doubt that dried vaccine does not deteriorate as readily as the ordinary vaccine virus. In Davao and Zamboanga highly satisfactory results have been obtained from the use of the dried vaccine, the percentage of takes being about 85. Two district health officers reported that they are as yet not ready to state definitely whether the dried vaccine is superior to the ordinary, while two other health officers have reported excellent results obtained by mixing dried vaccine with the ordinary vaccine virus. Still another reported that he prefers the ordinary vaccine to the dried vaccine.

Vaccination, by provinces.

Province.	Units received.	Total.				Percentage of positives.
		Vaccinations.	Inspections.	Positives.	Negatives.	
Agusan	21,000	16,941	11,283	6,618	4,665	58.6
Bukidnon	48,000	40,121	33,113	19,633	13,480	59.29
Cotabato	2,950	2,769	2,006	997	1,009	49.0
Davao	6,700	6,029	5,451	3,648	1,803	60.51
Lanao	17,000	11,982	7,749	5,346	2,403	66.0
Misamis	172,450	131,700	64,413	41,744	22,669	64.8
Sulu	7,800	6,980	6,890	4,260	2,630	61.8
Surigao	127,500	46,623	34,950	22,182	12,768	63.48
Zamboanga	5,450	9,781	5,912	3,322	2,590	56.34
Total	408,850	272,926	171,767	107,750	64,017	62.73

ANTI-TYPHOID.

In Davao, 134 contacts and in Zamboanga 405 have been vaccinated. Of these only a little girl of poor health contracted the disease. In Sulu the inmates of the Jolo Girls' Dormitory, numbering 40 and the teachers of Tawi-Tawi district, of which there were 63, and the contacts have been vaccinated against typhoid.

Anti-typhoid vaccination.

Province.	Number of persons vaccinated.				Number of persons that showed reaction.				Estimated population.	
	Males.		Females.		Males.		Females.		Vaccinated.	Not vaccinated.
	Adutls.	Children.	Adults.	Children.	Adults.	Children.	Adults.	Children.		
Agusan										
Bukidnon										
Cotabato	17		3						20	4,100
Davao	842		32		842		32		874	13,718
Lanao [a]	38		23		2		1			
Misamis										
Sulu										
Surigao										
Zamboanga	105	7	67	4	1	3	3	4	183	
Total	1,002	7	125	4	845	3	36	4	1,077	17,813

[a] Given to hospital employees only.

ANTI-CHOLERA.

In some provinces of this Division, anti-cholera vaccination has been carried out. In a few cases a general reaction consisting of fever which lasted from 4 to 8 hours, the maximum of which reached 38.5° C. (101.3° F.), accompanied by a general malaise with frontal or parietal cephalalgia and chill, has been observed. In others the reaction was slight, while practically nil in the greatest majority. The local reaction consisted of slight inflammation, redness and pain, at the site of the injection but in no case was the vaccinated person unable to perform his ordinary work. The reactions were noted regularly 4 or 8 hours after the injection.

Anti-cholera vaccination, by provinces.

Province.	Number of persons vaccinated.				Number of persons who had reaction.				Total vaccinated.	Estimated population not vaccinated.
	Males.		Females.		Males.		Females.			
	Adults.	Children.	Adults.	Children.	Adults.	Children.	Adults.	Children.		
Agusan	215	91	43	39	......	5	......	6	388	37,935
Bukidnon	......	......	......	......	......	......	......	......	......	......
Cotabato	45	......	......	......	......	......	......	......	45	4,075
Davao	381	99	147	51	357	99	132	62	678	12,368
Lanao [a]	157	1	12	2	......	......	......	......	172	......
Misamis	......	......	......	......	......	......	......	......	......	......
Sulu	......	......	......	......	......	......	......	......	......	......
Surigao	......	......	......	......	......	......	......	......	......	......
Zamboanga	103	......	......	......	103	......	......	......	103	......
Total	901	191	202	92	460	104	132	68	1,386	54,378

[a] Injections were also given to persons from various provinces engaged in traffic.

LABORATORIES.

ZAMBOANGA CENTRAL LABORATORY.

At the beginning of the year, the work of the laboratory was done as in previous years in the municipal building. On April 17, the laboratory was transferred to its present site, a room in the new pavilion of the Zamboanga General Hospital. This transfer has been very beneficial to the laboratory and the hospital. Water is now available not only for washing purposes but also for propelling a water-power centrifuge. Transportation of specimens from the Zamboanga General Hospital, from which the majority of specimens come to the laboratory, and the dispatch of reports back to the hospital by a messenger have been eliminated. This messenger has therefore been removed. The bacteriologist no longer loses time in trips between the municipal building and the hospital in getting blood specimens and other materials that needed personal attention. The laboratory animals have also been benefited. The hospital gets prompt service on all requests, the laboratory being in the same building, while laboratory fees for examinations made for out-patients and doctors are easily collected, the hospital cashier being on hand at all times. This laboratory has been called upon many times by the other hospitals, practicing physicians and the Military Hospital at Zamboanga, besides the other hospitals of the Division to perform various tests. The work during the year consisted of routinary examinations of blood, feces, urine, exudates, sputum and milk and serological tests (Wassermann, gonofixation and precipitin), pathological examinations of tumors and tissues removed from autopsies, manufacture of autogenous, anti-cholera, and anti-typhoid vaccines, autopsies and other miscellaneous tests and examinations of leper suspects, prostitutes, etc. Special work on malaria survey, cholera carrier's survey, typhoid and diphtheria campaigns, etc., made the year's activities very instructive and interesting.

PERSONNEL.

1 bacteriologist.
1 laboratory assistant.
1 laboratory attendant.

The following figures show that the work done in the laboratory was trebled in 1920 as compared with that of 1919:

	1915	1916	1917	1918	1919	1920
Total of laboratory examinations performed	4,026	3,379	2,595	1,884	5,915	16,061

If funds permit it is the desire of this office to improve the equipment of the laboratory in order that special qualitative and quantitative examinations of urine, blood, milk, etc., may be performed. The laboratory badly needs an electric centrifuge, incubators, water-baths, paraffin baths, a shaking machine and an oven. These electric instruments are ideal for efficient and accurate work for they are all supplied with automatic regulators thus doing away with time spent in the constant manual control of kerosene lamp heated instruments. An alarm clock for keeping time in serum work, a trip balance for weighing heavy substances and a large autoclave, are all time-saving additions to this laboratory where the work is increasing rapidly. A small cabinet file is also badly needed for the increasing records of the laboratory. The laboratory will be ready to prepare vaccine virus after the arrival of the vaccine virus mill.

OTHER LABORATORIES.

There are laboratories in the other provinces of the Division generally in connection with the hospitals and are sufficiently well equipped to perform such examinations as Widal reaction, examination for tubercle or leper bacillus, intestinal parasites, plasmodia in the blood and routinary examinations of urine. The more complicated examinations are performed in the Zamboanga Central Laboratory. The laboratories have been of service not only in aiding in the confirmation or corroboration of a diagnosis, but also in the prosecution of prostitutes and in certain cases for the detection of opium or its derivatives or of blood stains for court cases.

Summary of laboratory examinations.

Laboratory.	Total examinations performed.	
	1919	1920
Agusan laboratory	227	347
Cotabato laboratory	918	487
Davao laboratory	3,474	1,766
Lanao laboratory	1,142	704
Misamis laboratory	871	332
Rizal Memorial Hospital laboratory	1,192	1,022
Sulu laboratory	12	32
Surigao laboratory	384	693
Zamboanga Central laboratory	5,919	16,059
Total	14,139	21,442

DISPENSARIES.

The increasing number of Mohammedans going to the dispensaries for treatment shows the increasing patronage or popularity of the dispensaries. The usefulness of dispensaries has stood the test of years and the Mohammedans have forgotten the religious or race prejudice in search for the cure of their ailments. It is unfortunate that on account of the scanty funds, the dispensaries have not been supplied with all the necessary medicine and medical supplies needed in their respective districts as they should have been. It is also unfortunate that for the same reason the sending of medicines to teachers who voluntarily acted as dispensary attendants had to be discontinued. There is a great need of increasing the number of dispensaries in the different provinces of the Division. In certain provinces an experienced dispensary attendant travels from dispensary to dispensary staying in each several weeks to supervise the work of the local attendant and to train him at the same time. This practice, however, may have to be discontinued on account of lack of funds.

More dispensary buildings, preferably of the semi-permanent type, are also needed, but their construction can not be undertaken unless appropriations are increased. While the dispensaries have rendered a great service in the relief of suffering they have also served as a valuable aid in the detection of patients suffering from communicable diseases which are discovered either in the house-to-house inspection which the dispensary attendant performs, or in the dispensary where the patient generally seeks treatment. Before an attendant is sent to take charge of a dispensary, he is first trained in the provincial hospitals in first aid and treatment of communicable diseases. He is then taught to fill reports, and then instructed in the common procedures of dealing with persons suffering from communicable diseases. Needless to say, he is instructed to report at once the presence of any epidemic diseases or diseases in epidemic form. Moreover, the dispensary attendant is generally assigned two months every year in the hospital for further training.

It must be frankly stated that dispensary service in this Division is only short of disorganization. On account of the small pay, experienced dispensary attendants have been resigning generally to accept more renumerative positions outside. Just to give an example: a dispensary attendant in Sulu who has been rendering services for the last seven years resigned to accept an offer from the British Timber Company (Sandakan) at a salary of $112 (Sandakan currency) with free quarters and rice, and it behooves our authorities to do something to retain the services of competent men, otherwise disorganization of the service is bound to come. It is high time that the present salary of ₱60 per month for dispensary attendants who are nurses shoud be raised, otherwise it will be imposible to induce trained nurses to live in the remote places of this Division, especially in places entirely devoid of means of amusement, where the surroundings are strange and new to them, where the people have nothing with them in common from a social and religious standpoint, and should any of them be persuaded to leave it would be difficult if not impossible to retain them for a long time as experience has shown.

Summary of dispensary work done, by provinces.

Province.	1920		1919		1918	
	Cases.	Treatments.	Cases.	Treatments.	Csaes.	Treatments.
Agusan	4,664	6,987	4,727	7,904	3,512	5,625
Bukidnon	1,192	8,693	617	696	1,017	1,017
Cotabato	22,988	68,373	18,626	62,074	22,045	63,102
Davao	5,454	15,871	4,876	16,022	3,127	10,937
Lanao	2,482	6,819	5,616	12,258	7,745	14,854
Misamis	5,610	11,514	[a]4,646	[b]19,948	4,007	8,020
Sulu	35,489	64,189	24,925	49,500	25,219	45,875
Surigao	466	314	467	846	714	714
Zamboanga	4,599	11,399	4,992	12,669	7,456	14,352
Total	82,944	194,159	69,492	181,917	74,842	164,496

Province.	1917		1916	
	Cases.	Treatments.	Cases.	Treatments.
Agusan	6,304	12,132	....	....
Bukidnon	[c]177	249	....	....
Cotabato	24,014	55,543	25,898	57,355
Davao	7,885	23,554	9,222	25,445
Lanao	12,942	32,084	14,358	39,748
Misamis	[c]1,837	4,916	....	....
Sulu	22,893	39,711	17,425	37,007
Surigao	....	....	....	....
Zamboanga	6,011	14,421	6,143	18,726
Total	82,063	182,610	73,044	178,281

[a] Up to November only. [b] From July to December only. [c] From August to December only.

Comparative number of dispensaries, by provinces.

Province.	Number in charge of physicians.		Number in charge of graduate nurses.		Number in charge of non-graduates.	
	1920	1919	1920	1919	1920	1919
Agusan	2	1	....	2	7	6
Bukidnon	....	....	....	1	7	3
Cotabato	....	1	4	4	13	8
Davao	3	3	3	5	4	5
Lanao	1	1	....	1	11	8
Misamis	4	5	....	....	13	11
Sulu	1	1	2	5	20	6
Surigao	4	4	....	1	7	9
Zamboanga	....	2	1	....	10	10
Total	15	18	10	19	92	66

INFANT WELFARE.

The reduction of infant mortality is a national problem for the Philippines and no efforts should be spared to attain this end. In this Division where, in certain respects, conditions are worse than in the northern provinces, and where more difficulties are encountered, it is imperative that more district nurses and midwives be employed. Over one-third of the total number of deaths occurred among children less than two years old, and the morbidity among these innocent children are in large measure due to the ignorance and carelessness of parents and also to their disregard or violation of health rules. The great proportion of deaths among infants is preventable, and education of the parents is more than one-half of the solution of this problem. For this reason this office has laid special emphasis on the necessity of the health personnel giving lectures regarding the care of children to teachers, mothers, and prospective mothers, but lack of personnel prevented this office from attaining more than partial success. This Division is being flooded with schools and teachers, there being about one dispensary for every five schools and one dispensary attendant for every ten teachers. The undersigned recognizes the imperative need of more schools and teachers, which agencies form one of the greatest means of the Government to attain the speedy amalgamation of the Christian and Mohammedan Filipinos, but the demands of public health in this Division should be met more than half way, not only for the sake of the advancement of health itself, but also for the prosecution of the policies of the Government, for while the effects of schools are slow but permanent, those of the health service may be temporary but immediate. Often Mohammedans begin to be convinced of the good will of the Government after the cure of their ailments or the relief of suffering of their families, and such persons immediately become friends and supporters not only of the health service but also of the Government in general. Schools and health agencies should, therefore, go hand in hand and there should be a mutual understanding and hearty coöperation between them. There are at present 19 women's clubs in the Division and the majority were organized or maintained under the auspices of the health office and were working for the advancement of infant welfare. Baby contests were organized in several provinces, the Anglo Swiss Condensed Milk Co. donating condensed milk to the winners of the contests. Several clubs tried to raise funds by staging plays or programs for the clothing and food of the indigent infants in the locality. Several women's clubs made attempts to organize maternity centers or day nurseries, but on account of lack of funds, these praiseworthy plans could not be carried out. One of the means adopted to reduce infant mortality was the prosecution of the unlicensed midwife and the encouragement given to mothers to deliver in the Government hospitals or to be attended by physicians, nurses, or licensed midwives. The hospital also serve as centers of puericulture, as here the mother receive practical training in the care of children. A total of 269 deliveries was attended in the different Government hospitals in this Division and a total of 289 deliveries was attended outside either by physicians, nurses, or licensed midwives.

Total deliveries attended in hospitals or outside by physicians, etc.

Province.	Total deliveries outside attended by physicians, nurses or licensed midwives.		Total deliveries in the hospitals.	
	1919	1920	1919	1920
Agusan	2	3	12	30
Bukidnon				
Cotabato	14	24	46	37
Davao	15	23	19	28
Lanao	13	26		
Misamis	2	6	74	50
Sulu	55	47		
Surigao			13	30
Zamboanga	107	140	127	114
Total	208	269	291	289

MEDICAL INSPECTION OF SCHOOLS.

As usual, the schools located in towns or districts where there are physicians or nurses or those near the stations of the latter were inspected. In the majority of cases the schools inspected were well ventilated and otherwise met with hygienic requirements. Practically all of them are provided with play, or athletic grounds. It is unfortunate that on account of lack of personnel, shortage of funds and poor transportation facilities all the schools or all the school children could not be inspected. In several towns where there are no district nurses, a sanitary inspector is assigned to inspect the school children in the locality every day. Ordinary skin diseases, as scabies, etc., are treated in the schools while the rest are sent to the nearest dispensary or hospital. These regular daily inspections have been found of value in the early detection of dangerous communicable diseases, while the periodical examinations have been found of value in detecting such diseases common to children as tonsilitis, carious teeth, chronic ailments, as tuberculosis, malaria, etc., and in improving the general health and constitution of the children.

These cases of trachoma encountered were relatively few and these were excluded from the school. The pupils having trachoma report to the hospitals twice a day for treatment. The following prescription has been found of value, especially in the incipient stages of the disease:

℞

Tannic acid	2.00
Boric acid	0.20
Carbolic acid	2 gtt.
Glycerine	10.00
Dist. water q. s. ad	30.00

M. Sig.—one drop to each eye every three hours.

The eradication of yaws is something that can be accomplished in a short time with comparatively little expense. Considering that one tube of salvarsan costs ₱10, dividing it among ten school children, the injection for each child would cost only one peso. Perhaps, if large quantities of salvarsan are purchased it may be secured at ₱6 a tube. Since the appropriations for schools are better than those for the health activities, it is suggested that the schools purchase the salvarsan (as well as other drugs) to be administered by the health physicians. Through the efforts of the district health officer of Agusan, the schools in that province have been provided with Antipolo closets. The district health officer of Sulu has also taken up the matter of having the schools adopt this system of closet for the schools in Sulu, a proposition which was looked upon with favor by the Division Superintendent of Schools thereat, and only the high cost of materials prevented the adoption of the system from being carried out. The district health officer of Sulu has also made arrangements with a local practicing dentist so that the latter would treat the indigent school children free of charge for dental affections every Saturday from 2 to 4 p. m. The most prevalent diseases among the school children were dental caries, hypertrophy of the tonsils, and skin diseases.

WATER SUPPLIES.

To supply a community with a pure water supply, is one of the most important problems of the health office and as well as one of the most important duties of the Government. Good water supply and safe disposal of excreta, are the two readiest and simplest means of eradicating water-borne diseases. It is unfortunate that in spite of the great stress and emphasis laid on this matter by the health officers to the provincial boards and municipal councils, these have not responded in a generous manner by providing funds for water supplies. During the year 15 artesian wells were drilled and 706 sanitary wells have been dug. The City of Zamboanga and its neighboring barrios are well supplied with potable water distributed by gravity. Samples from this supply have been examined every week at the Zamboanga Central Laboratory. A total of 42 examinations was performed during the year with the following results:

	Positive.	Negative.
Colonies per c.c. 10 to 2,000		
Presumptive test	9	33
B. coli	3	39
Amœba	3	39
Cilliates	24	18
Flagellates	33	9

It is unfortunate that in many parts of the Division the people have to depend upon rivers or lakes for their water supply which at any time may become pulluted and cause widespread epidemic. Added to this is the fact that the Mohammendans defecate into the sea or into rivers and streams. Unless the municipal and provincial government make more liberal appropriation for water supplies, this problem will remain unsolved.

Water supplies, by provinces.

Province.	Artesian wells.			Sanitary dug wells.			Other systems.
	Number at the end of 1919.	Drilled in 1920.	Total.	Number at the end of 1920.	Dug during 1920.	Total.	
Agusan	21	.....	21	....	22	22	Thirteen tanks to store rain, spring, and lake water.
Bukidnon	......	......	......	....	....	....	Springs and rivers.
Cotabato	......	......	......	1	......	1	Stored rain, water, surface wells, springs and rivers.
Davao	1	......	1	65	62	127	Rain water, and streams.
Lanao	1	1	2	0	1	1	Springs and lakes.
Misamis	1	......	1	59	194	253	Springs, streams, and surface wells.
Sulu	......	......	......	....	....	....	Gravity system, springs, rain water, and streams.
Surigao	......	14	14	942	427	1369	Stored rain water, springs, and streams.
Zamboanga	......	......	......	....	....	....	Gravity system, pump wells, and surface wells.
Total	24	15	39	1,067	706	1,773	

MARKETS AND SLAUGHTERHOUSES.

Eleven new concrete markets were constructed in the Division during the year. The concrete markets, particularly, have been kept in a sanitary condition. Food articles have been screened and fingering of same was prohibited. Eleven markets were supplied with running water. One sanitary inspector is generally detailed to inspect the markets daily. The disposal of refuse from the markets has been fairly satisfactory.

Two new slaughterhouses were constructed during the year. Of the 21 slaughterhouses in this Division that were built of permanent materials, four are supplied with running water.

Ante- and post-mortem examinations of the animal sacrificed for human consumption have been performed even in places where there are no slaughterhouses. In places where slaughterhouses exist, the slaughtering of the animals in the slaughterhouse is compulsory.

DISPOSAL OF EXCRETA.

As is generally known the Mohammedans discharge their excreta direct into the sea, rivers or other streams or bodies of water and the enforcement of a different method of excreta disposal has been one of the most serious problems of this Division. Added to the natural objection on the part of the Mohammedans is the high cost of materials and the present money stringency.

In organized municipalities the approved systems for the disposal of excreta are the pit, the pail and the Antipolo systems. In the entire Division there are 24 municipalities disposing of the excreta by the pail system, while 33 towns have passed municipal ordinances adopting the Antipolo system. There were 4,952 septic tanks in use at the close of the year. During the year 7,541 new Antipolo closets have been constructed, making a total of 35,728 Antipolo closets in use in the Division, distributed as follows:

Province.	Number at the end of 1919.	Number newly built during 1920.	Total in use at the end of 1920.
Agusan	2,213	165	2,378
Bukidnon	80	182	262
Cotabato	475	386	861
Davao	339	443	782
Lanao	30	166	196
Misamis	8,430	2,039	10,469
Sulu	....	1	1
Surigao	15,072	3,484	18,556
Zamboanga	1,548	675	2,223
Total	28,187	7,541	35,728

GARBAGE DISPOSAL.

In practically every organized municipality in the Division there are in force ordinances regulating the disposal of garbage and refuse. The garbage is generally collected in special wagons or carts at certain hours of the day, and then disposed of by dumping it either into large pits or into low places in the municipality subject to the approval of the local health officer. In the municipality of Davao the garbage and refuse is finally disposed of by burning it in a large pit. In this province the construction of a crematory is now under consideration. In other places garbage and refuse are burned on the premises.

CEMETERIES.

The Mohammedans generally bury their dead near their dwelling houses, and another serious problem confronting this Division is the enforcement of the requirement that their dead be buried in a common cemetery. In certain places the natives have been prevailed upon to use a common ground for cemetery purposes, fence it and otherwise keep it in a sanitary condition. During the year 12 new cemeteries were opened and 3 were closed. The cemeteries, however, in the regularly organized municipalities follow the rules and regulations governing cemeteries. Speaking generally, the sanitary condition of the cemeteries has been satisfactory, especially those of the Japanese. As against 322 cemeteries in operation at the end of 1919 there were, at the end of 1920, 356 cemeteries distributed as follows:

Province.	At the beginning of the year.	Opened during the year.	Closed during the year.	In operation at the end of the year.
Agusan	80			80
Bukidnon	21	6	1	26
Cotabato	10			10
Davao	32			32
Lanao	6			6
Misamis	91	6	2	95
Sulu	7			7
Zamboanga	17			17
Total	344	12	3	363

During the year ten new sanitary ordinances have been passed by the different municipalities in the Division. Fifteen thousand three hundred sixty-eight sanitary orders were issued and 916 prosecutions made. The effects of Act 2887 transcribed in Circular S–26 of the Director of Health can be but wholesome. It gives more independence to the health officials and it does away with the interference or meddling of politicians or prominent persons in the locality.

SANITATION AMONG NON-CHRISTIANS.

If the enforcement of sanitation among Christians and other so-called civilized people is difficult, it is, aside from this difficulty, fraught with pitfalls and dangers among the non-Christians of Mindanao and Sulu, where the people from their cradle have been taught to hate Christians, who have had an independent existence of over 300 years, who do not value life as we do, and who welcome death in a fight as a sure means of an immediate transmigration of the soul to heaven. However, through patience, conscientious and organized effort their apathy towards scientific medical treatment has been gradually vanquished and now they not only submit to scientific treatment, but seek it. While before they resisted sanitary measures with arms, now they yield to them peacefully almost in all cases, perhaps reluctantly at times, but their reason can at present be better appealed to. The Mohammedans are just beginning to learn their first lessons in sanitation and with their wholesome change of mental attitude in favor of sanitation, the Government should by all means push sanitary measures among them.

Two things are essential in the efficient enforcement of sanitation and the uplifting of the living standard of a people: (*a*) Education of the masses and (*b*) permanent sanitary improvements. It is difficult to determine which of the two is the more important. One is as essential as the other, and one is a complement of the other. Sanitation among non-Christians will continue to be a difficult problem until the people have received at least the rudiments of the principles of public health. Laws may be passed and power may be conferred on the health officials, but no sanitary improvement will completely, satisfactorily and permanently be effective, unless an intelligent interest is created, both in the individual and in the public mind.

(*a*) There are four main channels through which the people may be educated to practice consistently the principles of sanitation. The first, and perhaps in the long run the most important, is the public school. It is here that sanitation should be not only taught but also practiced by teachers and pupils alike. Both in the school room, on the school grounds and otherwise, all opportunities should be taken advantage of so as to instill into the tender minds of the children the principles of correct living, there to develop into action as the child grows up to assume the responsibilities of citizenship. Sanitary clubs should be organized in the school, and such clubs should be supplied with literature by the health office, and there should be at least monthly meetings at which the sanitary condition of their respective communities and methods of improving them can be discussed. These sanitary school clubs should be under the supervision of the district health office and, in order to create a permanent interest among the members, monthly prizes should be awarded to the individuals who have made their houses or premises and yards the cleanest, most sanitary and attractive. In lieu of prizes one or two per cent may be added to the pupil's general average deserving the prize. In order also that the spirit of community sanitation may be aroused, units should be organized so that a prize will be awarded to the unit which has made its respective community or district the most sanitary.

The second channel of improving sanitation is by means of distribution of public health literature among the adult citizens of the community. Such literature should be presented in simple language, intelligible to the common reader and made as practical, appealing and effective as possible. We have seen how the medium of advertisement has increased business a hundred fold. Why should we not avail ourselves of this same medium to advertise the dangers and pitfalls of not following the rules of hygiene and sanitation?

The third channel is by means of lectures, preferably illustrated. These lectures just as the printed page should be intelligible to the general public. Demonstrations on the screen will considerably increase their value and effectiveness. By all means, teachers and pupils of the higher classes should be given such instructions, and it is for this reason that this office contemplates making arrangements with the Department Superintendent of Schools so that one of the health officers could give regular lectures to them.

The fourth medium of educating the public is by the employment of district nurses and midwives who should go from house to house and give the people practical lessons in hygiene, sanitation and the care of children, and this Division needs the services of more midwives and district nurses very badly. A practical lesson learned at home is impressive and lasting, particularly if parents could see the results of and the differences between the old and the new way. For this kind of work, men and women of character and influence who realize the responsibilities of the positions they occupy, who have interest in the result of their work, who realize that the value of their work is not measured by dollars and cents, but by the saving of human lives and the relief of their suffering, and men whose civic and philanthropic spirit is greater than the jingle of coin, should be employed.

(*b*) As already stated, permanent sanitary improvements, such as artesian wells, sanitary pump wells, public baths, etc., are necessary corroborants to the education of the people and the attainment of better sanitation among them. Among a people like the Moros, what is the use of preaching that they should drink pure water when the Government does not supply it? What is the use of telling them to take a bath when they are not given facilities for taking a bath? With those means mentioned, present conditions are bound to change, and the sentiment of the people in favor of sanitation is bound to come. Sanitation will then advance by its own momentum and will rest on a more solid and lasting foundation.

AGRICULTURAL COLONIES.

There were at the end of the year, 7 agricultural colonies in the Division distributed as follows:

Cotabato.—Ladtiñgan, Pikit Pagalungan, Silik-Peidu Pulangui, and Glan.
Lanao.—Momuñgan.
Surigao.—Lianga.
Zamboanga.—Lamitan.

The sanitary condition of the colonies has in general been good. On account of the limited appropriations, it is sad to state the colonies have not been supplied with all the medicines they needed. It is perhaps time to consider that the colonies should employ their own nurses or medical attendants, should provide their own medical supplies, and should call upon the health service only when necessary.

SAN RAMON PENAL COLONY.

On account of lack of personnel, no colony physician proper was assigned, the Assistant Chief of Division merely making weekly or bi-weekly inspections of the colony hospital and otherwise visiting it whenever necessary. The sanitary condition of the colony has been good. During the months of September, June and April there was a pest of flies due to the great quantity of fish being dried in the prison. However, after drastic measures had been taken, the pest was wiped out. Place where water stagnated were either drained or filled in and as a result the mosquito nuisance was abated. The campaign against bed bugs was also continued during the year with good results. The colony is well supplied with good water which is being distributed by gravity. The closet of the Antipolo system has been adopted in the different houses of the colony while the pail system is in use in the quarters of the guards. The residences of the Superintendent, Assistant Superintendent and the main office are provided with flush closets. During the year the following cases and discharges from communicable diseases have been registered:

Diagnosis.	Cases.	Discharges.
Dysentery	7	7
Influenza	40	27
Mumps	1	7
Tuberculosis of the lungs	2	2
Varicella	1	1
Total	51	37

During the year, 5 emergency cases were treated and one major surgical operation was performed. It is necessary that a separate pavilion for a hospital with an operating room outside of the personnel quarters itself be constructed. The present sick ward is not sufficient to accommodate all the patients.

HOSPITALS.

With the exception of Surigao and Bukidnon, all the provinces of the Department are provided with fairly well equipped hospitals, the Province of Zamboanga counting with two, the Rizal Memorial Hospital and the Zamboanga General Hospital. The hospitals in spite of the insufficient funds have made headway in every direction. More patients have been admitted, more operations have been performed and the income was larger than in the previous year. About the beginning of October, 1920, an unfortunate but necessary order was issued to the Zamboanga General Hospital, the Sulu Public Hospital, and the Lanao Public Hospital to limit the number of patients to a minimum and to admit only surgical cases and not to admit indigent patients, except in cases of emergency. The strictest economy had to be enforced and the service naturally could not be up to its usual standard. These hospitals incurred a considerable overdraft, and only an additional Insular aid of ₱20,000 from the Central Office prevented them from being actually closed. The hospitals form one of the most important activities of this Division. In general their trial stage has passed and they have won the sympathy and confidence of the people. There is indeed room for greater and better service, and the growing patronage of the hospitals demands it, and this office can not but appeal to the higher authorities for larger appropriations. This plea may be a voice in the wilderness but it is well that our authorities be appraised of the present conditions and needs. It is indeed a sad prospect that after the faith of the Mohammedans has been won to the hospitals we shall be obliged to refuse them admission to the hospital if they are unable to pay. The undersigned believes that it is unwise that we should limit the number of Mohammedans admitted in the hospitals, and much less so, to make them pay. The demand for more rooms, especially private ones, has been sorely felt. The shortage of physicians and nurses has been one of the most trying setbacks of this office. The municipal and provincial authorities are unanimous in their opinion that the hospitals have been and still are one of the greatest agencies for carrying out the policies of the Government. There has been no change in the administration of hospitals. The following general statistics give a good idea of the steady progress made by the different hospitals:

General statistics.

	Butuan Public Hospital.	Cotabato Public Hospital.	Davao Public Hospital.	Lanao Public Hospital.	Misamis Public Hospital.
Number of patients treated during the year	272	141	556	850	216
Filipinos	262	418	330	774	207
Americans	6	7	....	16	....
Japanese	1	1	219	2	6
Chinese	1	13	5	6	3
Others	2	2	2	2	....
Number of patients discharged	268	432	527	810	210
Recovered	252	309	441	549	175
Improved	....	85	38	188	23
Unimproved	....	16	11	50	3
Died	16	22	37	23	9
Number of operations performed	22	211	67	110	26
Major	7	7	38	27	3
Minor	15	204	29	83	23
Dressings	179	785	67	1,039	243
Number of out-patients treated	2,646	1,248	1,417	1,735	210
Number of prescriptions filled	2,679	5,478	1,918	1,441	1,088
Number of visits by physicians	125	120	223	168	209
Allowances	₱3,147.22	₱4,354.06	₱10,773.66	₱9,044.03	₱1,182.49
Expenses	3,137.02	4,706.39	9,338.45	7,616.48	5,772.72
Collections	4,437.48	4,733.15	9,959.98	7,699.03	2,235.03

	Sulu Public Hospital.	Rizal Memorial Hospital.	Zamboanga General Hospital.	Total.
Number of patients treated during the year	1,077	457	1,202	4,771
Filipinos	919	454	1,133	4,497
Americans	9	....	7	45
Japanese	53	....	32	314
Chinese	62	3	28	121
Others	34	....	2	44
Number of patients discharged	1,058	452	1,178	4,935
Recovered	989	393	863	3,971
Improved	40	47	210	631
Unimproved	17	6	28	131
Died	12	6	77	202
Number of operations performed	549	25	287	1,297
Major	56	3	70	211
Minor	493	22	217	1,086
Dressings	3,407	163	2,160	8,043
Number of out-patients treated	18,754	3,834	2,393	32,237
Number of prescriptions filled	3,986	3,980	1,923	22,493
Number of visits by physicians	223	12	1,460	2,540
Allowances	₱8,464.05	₱3,234.12	₱14,455.26	₱54,654.89
Expenses	7,542.15	2,194.67	12,168.85	52,476.73
Collections	10,190.50	4,463.07	21,388.73	65,106.97

BUTUAN PUBLIC HOSPITAL.

The hospital was transferred to the new building on December 12, 1920. The building is a concrete and hardwood structure and is large enough to accommodate 40 patients. District Health Officer Julian Pilares actively participated in the efforts towards the speedy completion of the hospital, and the provincial authorities are likewise to be commended for their hearty coöperation. The hospital was inaugurated on December 12. Many prominent people attended the ceremonies as well as a great number of the residents of the locality. The hospital is not sufficiently well equipped, especially the operating room. Prominent persons of the province were loath to enter the old hospital on account of being housed in an old decrepit building. The new hospital was hardly inaugurated when prominent people from Butuan, Cabadbaran, etc., began to seek admission to it.

COTABATO PUBLIC HOSPITAL.

On April 20, 1920, a Delco electric-plant supplying 45 (32-volt) lamps was installed. This new lighting system gives a much more satisfactory and economical illumination than the use of kerosene lamps. The hospital is in great need of certain equipment, such as surgical instruments, kitchen utensils, table-ware, etc. Important operations can not be performed due to the inadequateness of the surgical equipment. The wooden floors of the bath and toilet rooms were replaced with concrete. A bath tub was provided in each male and female bath rooms, both private and charity. The pantry should be made rat proof while the kitchen should be screened against flies. The quarters of the resident physician and of the nurses should also be made mosquito proof. Among the operations performed were, one each, laparatomy, herniotomy, perineoraphy and internal hæmorrhoidectomy.

DAVAO PUBLIC HOSPITAL.

Although the building is far from adequate, it has already attracted a large number of patients among whom were prominent persons of the locality. A new hospital is under construction and if funds are available it may be finished about June, 1921. The new hospital will accommodate 50 beds. Although the operating room of the present hospital is very inadequate, important major operations have been performed. 16 cases of typhoid fever were successfully treated by means of intravenous injection of an emulsion of atenuated living typhoid bacilli. There is a great need of increasing the personnel of the hospital.

LANAO PUBLIC HOSPITAL.

The collections were three times as large as those of the past year, while the number of patients was also considerably increased, although all the patients seeking admission could not be admitted due to lack of funds. The hospital is provided about 100 electric lamps. It is also provided with a small launch. Thirty-two new mattresses were made locally by the female ward attendants. Among the treatments employed were intravenous injection of bicholoride of mercury for inflenza and for malaria, also serotheraphy in chronic articular rheumatism and chronic gonorrhœal poly-arthritis. Among the operations performed were one appendectomy, one splenectomy for chronic splenomegaly and one operation for exophthalmic goitre.

An association among the health employees was organized, for the purpose of mutual help and coöperation. The association gave several literary programs. The hospital also counts with a string orchestra. The personnel also indulged in athletics outside of office hours. Strict discipline was maintained throughout the year.

MISAMIS PROVINCIAL HOSPITAL.

The Misamis Provincial Hospital is maintained entirely by funds from the province which were inadequate to run it in a satisfactory manner. The hospital building is an old house which has undergone repairs at the expense of the province. Towards the end of the year only emergency or very serious cases were admitted on account of an impending overdraft. In spite of great handicaps, the hospital has won great popularity in the locality and there is great need of housing the hospital in a better building.

To show to what extent the enthusiasm and the interest over hospitals have reached in certain places of this Division, a private citizen of Mambajao has donated a building for a hospital. The operation of the hospital was placed under the control of the health authorities.

The people of Oroquieta also, realizing the beneficent effects of a hospital, raised funds mostly through voluntary contributions for maintaining a hospital which was opened to the public in October, 1920. In spite of the insufficient personnel, supplies and equipment, quite a number of minor operations were performed and several important medical cases have been treated.

SULU PUBLIC HOSPITAL.

The hospital in spite of insufficient funds has made headway in every direction. More patients have been admitted, more operations have been performed, and the income was larger than that of any previous years. The hospital on several occasions was on the verge of being closed and was warned several times by the Provincial Secretary-Treasurer that no more expenses would be approved, and only an additional Insular aid of ₱7,000 saved the day for the hospital. Medical supplies have often been lacking and the strictest economy had to be exercised. The appropriation of ₱10,000 for consumption of supplies and materials includes medicines for the hospital and for twelve dispensaries in the different parts of the province, and for subsistence of patients, for laundry, for firewood, etc., and in order that the hospital may be run satisfactorily and efficiently this amount has at least to be doubled. The hospital counts with the general sympathy of the public. More than once prominent citizens and Government officials have offered to solicit voluntary contributions in person should the Supervising Surgeon be obliged to pay personally for the overdraft. The patients were kept in the hospital as few days as possible in order to give room to others also needing medical treatment. The nursing personnel is insufficient. The Provincial Board of Sulu in one of its resolutions stated that the hospital is a blessing to the people and is one of the greatest agencies of the Government for carrying out its policies. There is hardly any family in Sulu beginning from the Sultan Hadji Butu and the provincial officials to the humblest Moro, who have not required the services of the hospital at one time or another. One of the patients operated on was the then Third Member of the Provincial Board and now Representative Julius Schuck, for appendicitis. Perhaps deserving of more than passing interest is the fact that one patient from Surigao having an enormous ovarian cyst went to Jolo from that place just for the operation, and another living at Dumaguete having a large cystic goitre also came to Jolo purposely to be operated on, as likewise a large number of Moros having tumors, old fractures, etc., coming from the outlaying districts to the hospital to submit to operation. A total of 56 major and 493 minor operations were performed. Among the operations performed were two hysterectomies, one Cæsarean section, over thirty appendectomies, also five cases of pyosalpinx and pelvic peritonitis and several ruptured appendicitis and one appendiceal abscess, two liver abscesses, one requiring resection of two ribs, several forceps applications, several cases of cataract, etc., all were successful. The Supervising Surgeon obtained excellent results from the use of anti-typhoid vaccine in typhoid fever cases. During the last three years 40 cases were treated without a single fatality. He also obtained good results from the use of intravenous injection of tartar emetic in refractory cases of malaria. An electric call bell system has been installed by the rovincial electrician free of charge.

A library which now counts with over 500 volumes and 15 newspapers and an indoor baseball team composed entirely of hospital personnel were organized. Due to the increasing patronage of the hospital and the inadequateness of the present building the construction of a larger hospital building, preferably of concrete, is earnestly recommended.

RIZAL MEMORIAL HOSPITAL.

Were Dr. Rizal living to-day he probably would be contemplating with satisfaction the popularity of his old place of exile as a hospital, and would feel gratified that the work he had started has not been continued in vain. It is indeed unfortunate that on account of lack of funds the building which was once the residence of the foremost Filipino hero could not be repaired as it should be. This building being a historic one should by all means be preserved. It is likewise a pity that medical supplies and personnel are deficient. Four hundred forty-seven patients were admitted to the hospital during the year, among whom were 90 parturients. The dispensary collections were also three times as large as those of the preceding year.

ZAMBOANGA GENERAL HOSPITAL.

The new pavilion of the hospital completed in March, 1920, did not materially increase the capacity of the hospital. It merely relieved the over-crowding in the old pavilion where, for lack of space and due to the constant demand on the part of the public for admission, the porch had been utilized as a general ward. The new pavilion has one ward of eleven beds for male patients and one ward of nine beds for female patients, while the old building has four private rooms of two beds capacity each, and two pay-wards of three beds each, one for female and the other for male patients. The present operating room is very small and inadequate for the hospital and a new operating room pavilion is already under construction. Beginning with the middle of the year the hospital personnel found themselves in a most embarassing position rejecting a good many patients seeking admission. This had to be done on account of lack of space in the hospital and on account of lack of funds. The number of admissions was 1,202 in 1920 as against 995 in 1919. Lack of nursing personnel has been sorely felt, but it is hoped that with the opening of the training school for nurses this problem will find its solution. A Delco light plant has been installed for the exclusive use of the hospital, and its maintenance is much less than the cost of lighting in previous years when kerosene lamps were used. As soon as funds are available it is proposed to build an additional house for the quarters of physicians and nurses. It is also proposed to place on the fountain in front of the hospital the statue of a nurse and a Mohammedan patient, the former showing the hospital to the latter to symbolize one of the most important missions of the Philippine Health Service in this Division. The rapidity by which the hospital gained an almost absolute confidence of the public was indeed remarkable and is one of the greatest successes of the hospital service in this Division. A total of 70 major and 217 minor operations have been performed. Among the operations performed were one Cæsarean section, one enterostomy, one nephropexy, five oöphorectomies, six salpingectomies, and one excision of a carcinomatous breast.

EXTRACTS FROM THE REPORTS OF THE DISTRICT HEALTH OFFICERS.

AGUSAN.

The district health officer took an active part in the prosecution of the work of the new hospital building and much credit is due him for the early completion of the same. After the departure of the district engineer from that province, the district health officer practically assumed the direction of the construction of the hospital.

Excreta is well disposed of either by the Antipolo system, the pit or pail system. The materials alone used for the Antipolo closet cost an average of ₱30. One hundred eighty-five Antipolo closets were built during the year, giving a total of 2,278 Antipolo closets in the province at the end of 1920.

Anti-cholera vaccination as well as anti-smallpox vaccination was performed without much opposition from the people. The district health officer reported that he obtained better results from the use of ordinary vaccine virus than from the dried vaccine.

About 50 per cent of the complaints filed before the justice of the peace court of Butuan were not tried on account of politics of the pernicious type. The attention of the Provincial Governor was invited to this matter and so far no action has been taken. In general, however, the provincial and municipal authorities coöperated with the health office.

The municipality of Butuan passed the following ordinances: (1) Regulating the operation of billiard saloons, making it compulsory that the floor be made of cement or other material approved by the health officer; (2) prohibiting spitting on the floor of public establishments and making the use of cuspidors obligatory; (3) making it obligatory that cockpits should be provided with sanitary closets approved by the local health officer and (4) defining "mosquito and extra-mosquito zones" for the suppression of mosquitoes and the eradication of malaria.

The municipality of Cabadbaran passed the following ordinances: (1) Regulating the use of artesian wells in the municipality; and (2) regulating the use of automobiles and other means of transportation for conveying dead bodies.

The new hospital was inaugurated on December 12, 1920. The hospital was hardly inaugurated when prominent persons from Butuan, Cabadbaran, etc., sought admission to it.

With funds accruing from the exercise of strict economy and from certain reversions, a motor launch costing ₱3,400 was constructed during the latter part of the year. The cost of maintenance of the launch was more than covered by its income. Each municipal district is in need of a clerk with some experience in preparing statistics. The hospital as well as the sanitary personnel should be increased. The ordinance on cemeteries should be revised. The compensation of the resident physician should be increased to ₱200 a month. The district health officer has outlined a constructive program of activities for the year 1921.

BUKIDNON.

In general the people are amenable to discipline, and sanitary measures have been enforced without encountering much opposition from them. The non-Christians are in certain respects more easily handled than the Christians. The local authorities generally coöperated with the health officers. On account of the influenza epidemic, it is estimated that the population of the province during 1920 is less than in 1919. Registration of births has not been efficiently carried out. Proper care of children is something almost absolutely unknown to the people. The percentage of marriages celebrated before the justice of the peace is increasing, thus making the registration of marriages easier. On account of lack of trained personnel, difficulties were encountered in the preparation of the health index. Almost all the schools in the province have been inspected and it was found that the Antipolo system of closets is being used in practically all of them. The municipalities of Malaybalay, Maluco and the barrio of Darili are well supplied with potable water distributed by gravity. There is no market of the permanent type in the province. There is in the district of Diklom a modern slaughterhouse made of concrete and provided with running water and other facilities. There is a total of 262 Antipolo closets. The average cost of each is ₱10. Although there is no municipal ordinance to the effect, the garbage and refuse are being gathered in a pit where they are burned. Six new cemeteries were opened and one was closed during the year. There was not a single prosecution made for violation of health ordinances, because as already stated, the people are amenable to discipline and readily comply with the orders of the health officials. There is no hospital in the province. Undoubtedly, one will be a blessing to the community. Among the improvements introduced were the use of the Antipolo or other system of closets, the enforcements of cleanliness of the premises, the compulsory burial of dead bodies in cemeteries, etc. The popularity of the dispensaries is increasing every day. There is a great need of increasing the supplies and personnel.

COTABATO.

Better results from the use of dried vaccine have been obtained than from ordinary vaccine. Forty-five anti-cholera vaccinations were performed. Only slight local reaction was observed. The hospital personnel has been vaccinated against typhoid. One baby contest was held in November in the municipality of Cotabato under the auspices of the hospital. The Anglo Swiss Condensed Milk Company donated four cases of condensed milk which were distributed free to the winners of the contest. Twenty-two babies participated. During the contest the district health officer and the resident physician gave lectures on infant feeding and infant mortality, respectively. Steps have been taken to organize a Women's Club in Cotabato.

To provide the people with a good water supply is one of the most difficult sanitary problems of the province at present. The sources of water supply used in the province are rivers, springs, and lakes. Up to the present time there is no reliable water supply for the most thickly populated districts of the province, including the capital of the province itself. Although there is distilled water for sale at Cotabato, only the well-to-do can afford to buy it. There are two markets of the permanent type in the province. A modern concrete market is under construction at Cotabato. The Provincial Government is at present standardizing the type of markets in all the municipal districts. It is expected that in the near future there will be but one type in the province. There is at present a total of 861 Antipolo closets. There is a good system of garbage disposal in the municipality of Cotabato. The sanitary condition of several agricultural colonies in the province was improved by the establishment of dikes, thus preventing inundations which previously often polluted the water supplies. The services of a dental surgeon are badly needed, especially for the school children. A nurse to devote most of the time to treating school children and giving them practical lessons in sanitation should be employed at the expense of the school. The hospital needs an electric call bell system and a night-watchman-clock, the latter to be punched by the attendants and nurses on duty at night every ten or fifteen minutes. This will show whether the attendant or the nurse has been sleeping or not. Other needs of the hospital are an ambulance, a septic tank and a large receptacle for collecting rain water. The operating room besides being poorly equipped needs considerable repairing. Realizing that the printed page is valuable as an instrument of public health education, the district health officer recommends that health-grams printed on small slips of paper be pasted on the front page of books in use in schools. The following are given as examples:

CLEANLINESS IS NEXT TO GODLINESS.

AN OUNCE OF PREVENTION IS WORTH A POUND OF CURE.

I promise to do the following things:

1. I will wash my face every morning and my hands before eating.
2. I will brush my teeth morning and evening. A clean tooth will not decay.
3. I will sleep with open windows and under mosquito bars. Fresh air and sleep are essential to the growth of the child.
4. I will not put my fingers into my mouth and nose. A clean mouth and sound teeth are great factors in protecting health.
5. I will eat simple nourishing food only three times a day, and will always use spoon, fork and knife, every time I eat.

DAVAO.

Much attention was devoted to the enforcement of the Antipolo system of toilets. Five hundred fifty-six Antipolo closets were established. Six hundred seventy-eight anti-cholera vaccinations and 874 anti-typhoid vaccinations have been performed during the year. Smallpox vaccination was also carried out without much opposition from the people. In certain municipalities the local authorities not only did not coöperate but they also in some ways obstructed the activities of the health office, especially those who had been fined for violation of health ordinances. Since the wireless station at Cuabo was closed the five municipalities on the east coast have been entirely deprived of communication with the capital. On account of the low standard of salary, the very high cost of living in the province, and the many opportunities for more lucrative positions outside the government service the health office was unable to fill the vacancies of dispensary attendants, etc. There have been no epidemics during the year. Sporadic cases of amœbic dysentery were recorded in Mintal, municipal district of Guianga. The infection was traced to the water supply. At the end of the year a total of 96 cases with 16 deaths were registered. Tuberculosis was found to be quite prevalent among the new immigrant laborers. It is suggested that these laborers undergo a thorough physical examination before being sent to this province. The necessary measures have been taken to prevent the spread of the disease. The construction of a sanatorium or preventorium is imperative. The different plantations should help finance this project. Six thousand twenty-nine anti-smallpox vaccinations were performed without the health officers having had to resort to the court. The percentage of takes from the use of dried vaccine was found to be lower than from the use of ordinary vaccine. One thousand forty-one vaginal examinations, mostly from prostitutes, have been made. An active campaign against the local unlicensed midwives was instituted, and as a result practically all the deliveries during the year were attended by physicians or nurses. Garbage is being collected regularly and disposed of by burning it in a large pit. The construction of a crematory is now under project. Several health ordinances were passed by the municipality of Caraga. In general the provincial authorities coöperated with the health office while the municipal authorities did not. The district health officer recommends that the appropriations for supplies and personnel be increased.

LANAO.

The enforcement of sanitary measures in the municipality of Iligan was attended with great difficulties on account of the opposition of the people to it. In general, the sanitary conditions of the province have been good. In order to avoid frequent request for Constabulary guards, the sanitary inspectors and dispensary attendants should be provided with fire arms. A mild epidemic of measles occurred in Ganasi, Dansalan and Iligan without any fatality. The district health officer offered the Datus who could deliver a confirmed leper to the health office ₱5 per leper, but without result. A large percentage of takes from the use of dried vaccine mixed with ordinary vaccine was obtained than from the use of either ordinary or dried vaccine. Lectures were delivered to teachers attending the Normal School Institute. In spite of the fact that an Antipolo closet costs only from ₱3 to ₱5, the enforcement of this system of closets met with great opposition from the people. A model sanitary ordinance based on that enforced in the City of Zamboanga was passed by the municipality of Iligan but the enforcement of the provisions thereof was beset with great difficulties. In this municipality alone, 59 persons were prosecuted of whom 52 were convicted and fine.

A Datu on being refused admission to the hospital made the following remark:

> Formerly when the Americans were here they used to compel us to enter the hospital; now that they are gone you do not like to admit us. I wish the Americans were back.

Strict discipline was enforced among all the health personnel and mutual coöperation was promoted by means of literary programs, athletics, etc.

MISAMIS.

The local authorities and the public did not coöperate in the suppression of the smallpox epidemic and otherwise remained passive to the promotion of the health activities. Efforts were made to eradicate malaria by means of free distribution of quinine, but on account of lack of funds the measure could not be carried out on a large scale. The district health officer recommends the segregation of tuberculous patients having open lesions in a similar way as the lepers are segregated. Twelve lepers were apprehended and isolated in a temporary segregation house, but unfortunately all were able to escape and up to this time they have not been recaptured. In order to push anti-smallpox vaccination, the Chief of Division authorized the district health officer to appoint 10 additional special vaccinators paid from the Insular aid. Nearly 100 per cent takes were obtained from the use of the dried vaccine. Equally good results were obtained from a mixture of dried vaccine and the ordinary vaccine virus. Seventeen dispensaries were in operation at the end of the year. There are seven Women's Clubs all of which take a great interest in the promotion of the health of the inhabitants. The Women's Club of Cagayan greatly assisted in furnishing subsistence to the hospitalized cases of smallpox. There is an artesian well in the municipality of Cagayan, but unfortunately it is not sufficient to supply the entire population with water. In this municipality alone there are 337 superficial wells. There is now under consideration a project to provide the municipality with a more adequate water system. Seven municipalities are provided with first class markets, the others with markets of more or less strong materials. Screening of food articles is enforced while fingering of same is prohibited. Cagayan is the only municipality having a slaughterhouse of strong materials. A prominent citizen of Mambajao donated a building for the use of a hospital while the people of Oroquieta raised funds for maintaining a hospital thereat. These hospitals have been in operation since the latter part of 1920, and are already beginning to receive the hearty patronage of the people. Most of the time and attention of the entire health personnel of the province was devoted to the eradication of the smallpox epidemic.

SULU.

The sanitary conditions during the year 1920 have been very satisfactory indeed. There were no epidemics and the mortality was lower than that in previous years, as likewise the morbidity from communicable diseases. For the first time since the organization of the health service in this province the number of births registered exceeded that of the deaths during any one year.

The Sulu Public Hospital made headway in every direction. There has been a steady and progressive increase in the number of patients admitted, in the number of major and minor operations performed and in the income. One thousand fifty-eight patients were admitted during 1920 as against 939 during 1919. Forty-nine major and 493 minor operations were performed during the year while the collections were ₱10,190.50 as against ₱8,288.05 during 1919. Five of the trained and older personnel, including the superintendent, etc., were offered more remunerative positions outside but the district health officer succeeded in persuading them to stay,—to make some personal sacrifice for the benefit of public service. The district health officer organized an indoor baseball team composed entirely of health personnel, which team is one of the contestants for one of the four athletic trophies which was donated by the Manila Sporting Goods Company to the Province of Sulu through the district health officer. The district health officer organized a sort of public library which now counts with some 500 volumes and 15 newspapers. The library, although it is being run under the auspices of the hospital, has become a permanent institution by itself and has won great popularity among booklovers. Fourteen indoor baseball teams contested for one of the trophies, and this side activity of the district health officer has otherwise tended to promote athletics in Sulu. The team and the library were found to promote the *esprit de corps* and served as a means of keeping the personnel in the office, besides drawing a goodly crowd from the cockpit, the athletic games, particularly.

The progressively decreasing percentage of deaths without medical attendance shows a wholesome change in the mental attitude of the people. Such a change of attitude cannot be accomplished overnight. It is the result of a constant and conscientious toil for the last six years. No amount of preaching will change the mode of life of a community if it is not supported with results. *Enter* modern medicine and *exit* native art of healing is a *fait accompli.*

On account, however, of lack of funds the hospital had to limit the number of indigent patients and only a very limited amount of medical supplies could be sent to the different dispensaries of the province and inspections by the dispensary attendants had to be discontinued during the last part of the year.

The Jolo Women's Club under the direction of Dr. Luna-Orosa staged several plays among them "Oh! That Panguingue," and otherwise tried to raise funds through other means. These funds were partly spent for the purchase of clothing and food for the indigents in the municipality, for the clothing of indigent school children, and for other philanthropic or social work. The club also made appropriations for small prizes for the school children of Jolo who obtained the highest average in their classes. If funds permit the club proposes to organize a day nursery where the infants and children of the poor can be taken care of, as also those of mothers who have to work for a livelihood during day-time.

Dr. Luna-Orosa also gave lectures every Friday regularly to the teachers and the pupils of the two highest classes of the Central School of Jolo. Among the topics discussed in the lectures were "Our Daily Bread," which dealt at length with the subject of balanced diet, "The Problem of Sex Education," in which a warning was given to avoid the dangers and pitfalls of ignoring or violating health rules. The district health officer was asked to speak at several school meets. One of the subjects he discussed was the need of mutual understanding and coöperation between the school and the health office.

Through the efforts of the district health officer a local dentist agreed to devote one afternoon every week to the free dental treatment of the school children.

The health officials made strenuous efforts so that the reservoir of the water supply be regularly cleansed at least once a week. The city water supply should be chlorinized. For the apparatus ₱2,400 and for two cylinders of chlorine ₱130 are needed, but the province has not as yet made the necessary appropriations. It is said that the overdraft of the province at the end of 1920 exceeded one million pesos.

The slaughterhouse was provided with running water.

The Municipal Council of Jolo and the Provincial Board, the latter acting for the municipal districts of the province, passed an ordinance prohibiting the possession and sale of fish caught by means of dynamite. The district health officer recommended to the Division Superintendent of Schools that sanitary clubs be organized in the highest classes of the Jolo Central School, said clubs to be under the supervision of the health officers.

In general the local authorities coöperated with the health office. Thru the efforts of the district health officer the "O" funds were raised from five per cent to seven per cent of the general funds. The district health officer recommends the enlargement of the Sulu Public Hospital or more preferably, the construction of a large concrete hospital; that, should this recommendation find disfavor, a contagious hospital be constructed; that appropriations for permanent sanitary improvements be made, and that the appropriations for the activities of the hospital, dispensaries, etc., be at least doubled, and that the personnel be also increased.

SURIGAO.

There are in all 15 municipalities in the province, and in each, one sanitary inspector is detailed. Communication facilities are very irregular and poor, and a launch is badly needed. There are municipalities which can be reached only by launch, and there are certain periods of the year in which the sea is impassable even by boats of moderate size. A launch will be of untold value to the health office.

In spite of the smallpox epidemic the number of births exceeded that of deaths. A food crisis was felt severely several times during the year. With the exception of Placer, Bacuag and Dapa the municipalities are not supplied with good water. A total of 3,484 new Antipolo closets were constructed, making a grand total of 18,556 Antipolo closets in the province at the end of the year. Several places where water stagnated were drained. The position of chief sanitary inspector still remains vacant. Better equipment is needed for the laboratory. There are three Women's Clubs in the province, but none of them are incorporated. The district health officer recommends the construction of a general hospital and a contagious disease hospital.

ZAMBOANGA.

Efforts were made to extend the enforcement of sanitation not only in the organized municipalities inhabited mostly by Christians but also in the remotest parts of the province inhabited mostly by non-Christians. The municipal and provincial authorities, particularly of the municipality of Zamboanga, not only did not coöperate with the health office but they also in some ways obstructed its path of progress, and it is deplorable that they misunderstood the mission of the health service, and that they resented the measures implanted by the health office in order to eradicate dangerous communicable diseases. It is also to be deplored that there have been misunderstandings and even frictions between the district health officer and the local authorities. In spite, however, of the obstructions the health office successfully carried out its sanitary program to a finish, and at present the municipality of Zamboanga is in a much better sanitary condition than ever before, and even those local authorities who before antagonized the health office seem to be convinced now that the health office was only fulfilling its duty. Public markets, restaurants, tiendas, barber and laundry shops, stores, etc., were closely inspected and as a result they are now generally up to the requirements of the sanitary ordinances. A total of 675 new Antipolo closets was built. Nine thousand seven hundred eighty-one vaccinations have been performed with 3,322 positives.

The municipalities of Isabela de Basilan and Lamitan were organized into one sanitary division. The district health officer recommends the organization of the City of Zamboanga into a sanitary division, and the increase of dispensary-attendant-sanitary-inspectors.

MISCELLANEOUS.

Although not directly under the sphere of the writer's action, he feels that it is justifiable to suggest that the interisland boats be subjected to a regular inspection by the officers of the Philippine Health Service. The interisland boats are in the greatest majority not up to the requirements of sanitation, and certainly they are far behind in cleanliness and commodiousness compared with foreign boats. Section 579 of the Sanitary Inspector's Handbook, pages 110–111, applies with equal force to our interisland boats. Changing landlord to shipowner, and house to boat, we have:

Overcrowding with its results due to a lack of ventilation and too intimate contact of people is a condition met with especially among the poor classes. This is due not only to ignorance, poverty, and apathy on the part of the poor, but to a greater extent to the greed of the *shipowner*. The more people he can crowd into his *boat* the larger his income, and he thinks more of a peso than of the health and lives of his fellow-countrymen.

Our shipowners have hardly bought a first class foreign boat when they start to increase the number of cabins and otherwise do away with certain accommodations. It is therefore, suggested that all incoming boats to Manila and to all the ports and towns where there are stationed commissioned officers of the health service, be subjected to inspection.

Other activities contemplated for the year 1921 are:

1. To recommend to the Department Superintendent of Schools (*a*) the organizations of sanitary clubs in the highest classes of the schools in this Division under the supervision of the local health officers; and

(*b*) The printing of health-grams to be placed on the front pages of the text books in use in the schools of this Division.

2. To call annual conferences of the commissioned officers of the Division, and

3. The opening of a training school for nurses.

CONCLUSION.

From what has been stated above, it is evident that the most pressing need of this Division is more funds for more personnel and for more supplies and materials. All the district health officers without a single exception have voiced in no uncertain terms this crying need. The advancement of the sanitary conditions of a community entails the expenditure of money. Without funds sanitation will be at a standstill. The mission of the health service in this Division fills two purposes: first, to promote the health and the happiness of the inhabitants; and second, to assist in the speedy amalgamation of the Mohammedan and Christian Filipinos. This office modestly but sincerely believes to have partially accomplished both, but it should be acknowledged that the goal is yet distant. What little success was attained should not blindfold us, it should not halt us in our activities, but rather it should spur us to greater endeavors. More personnel is needed as likewise more medical supplies and materials and there should be a yearly increase of at least 30 per cent over the annual appropriations in order to meet the growing demands and increasing patronage of the service, besides making special appropriations for such other needs as launches, dispensary buildings, permanent sanitary improvements, such as wells, public baths, etc.; but instead, the appropriations have remained stationary from year to year and more than this, if this office is well informed, there is a tendency to decrease the allotment for the health activities of this Division. To do so would be fatal. It would mean a complete paralysis of the hospital and dispensary services in this Division which are entirely dependent upon the paternal aid from the Insular Government. This office is convinced that the so-called Moro problem, which has been the thorn of the administration of the Philippine Government for centuries, is not yet entirely solved. It should be seriously considered that the present-day Mohammedan is no less warlike and explosive than he was ten or one hundred years ago. The recent Pata bloodshed is there, as likewise the still more recent case of a Joloano leper running amuck and trying to kill his guards. It is certain that peace conditions obtaining at present are better than ever before, but their maintenance and the final amalgamation of Mohammedan and Christian Filipinos still require the undivided attention of those upon whom devolves the arduous duty of bringing the Mohammedans to the same educational, social and political level as their Christian brothers and completely uniting and assimilating the two peoples.

This office, therefore, cannot but make an earnest, emphatic, but sincere plea that the appropriations for the health activities of this Division be increased every year.

REPORT OF THE OFFICE OF SANITARY ENGINEERING

(EDWARD L. BARBER, *Sanitary Engineer.*)

The work of this Office may be divided into the following headings:

1. Sanitary supervision of building construction, city of Manila.
2. Execution and enforcement of structural sanitary orders, including all orders for filling in low lands, city of Manila.
3. Plumbing installation and inspection, city of Manila.
4. Sanitary and construction projects, provincial.
5. Drafting department.
6. Construction work, city of Manila.
7. Construction work, Culion Leper Colony.

MANILA.

The following tabulation shows the amount of routine work performed in the city of Manila: During the year 426 sanitary orders were issued subdivided under the following heads: minor orders, 263; sewer orders, 54; vacating orders, 105; and filling orders, 4, and a total of 306 orders were completed.

While there is a little difference between the number of orders completed in 1919 and that of 1920, that of the former year being 304 and of the latter 306, there is a great difference in the number of orders issued in 1919 as compared with those issued in 1920, that of the former being 293 and of the latter 426; this difference was mainly due to action taken by this Office on many complaints from different individuals and various health stations against nuisances.

During the year, ten convictions were secured for non-compliance with sanitary orders, with fines amounting to ₱100. One case was dismissed due to the fact that the order was duly complied with.

Building projects to the number of 3,382 were acted upon by this Office during the year, 1,111 of which consisted of plans for new strong material buildings, including additions and alterations. The remainder is divided into the following: Permits for minor building construction: 480 approved, 46 disapproved, and 332 new buildings completed; and light and mixed material structures: Permits approved, 926; disapproved, 487.

The number of separate plumbing projects handled in this Office during the year is 1,053, the total cost of which amounted to ₱36,548.72.

The drafting branch of this Office handled 50 separate drafting projects, 25 of which were completed, and most of the remainder were under way to completion at the end of the year. One hundred seventy-six blue-prints were made from various tracings during the year.

Statistics information, by districts.

[Manila only.]

	Health districts.					
	No. 1.	No. 2.	No. 4.	No. 5.	No. 6.	Total.
Orders pending:						
December 31, 1919	36	79	82	47	45	288
Orders issued:						
Minor orders	56	123	43	17	24	263
Sewers orders	2	39	9	2	2	54
Vacating	7	13	58	23	4	105
Filling orders	......	......	1	2	1	4
Total	65	175	111	44	31	426
Grand total	100	254	193	91	76	714
Orders completed:						
Minor orders	40	97	27	11	23	198
Sewer orders	4	14	8	......	2	28
Vacating orders	6	16	35	13	7	77
Filling orders	......	......	2	......	1	3
Total	50	127	72	24	33	306
Orders cancelled:						
Minor orders	2	1	2	......	4	9
Sewer orders	4	5	1	......	......	10
Vacating orders	......	......	5	......	......	5
Filling orders	......	......	......	......	......	......
Total	6	6	8	......	4	24
Grand total	56	133	80	24	37	330
Orders pending:						
December 31, 1920—						
Minor orders	24	38	23	20	11	116
Sewer orders	13	66	8	4	2	93
Vacating orders	2	17	41	10	21	91
Filling orders	5	......	41	33	5	84
Total	44	121	113	67	39	384

No. 1. Intramuros, Ermita, and Malate.
No. 2. Meisic, Santa Cruz, Binondo, and San Nicolas.
No. 4. Sampaloc, Quiapo, San Miguel, and Santa Mesa.
No. 5. Tondo.
No. 6. Paco, Pandacan, and Santa Ana.

Statistics information, by quarters.

[Manila only.]

	First quarter.	Second quarter.	Third quarter.	Fourth quarter.	Total.
Orders pending:					
December 31, 1919					288
Orders issued:					
Minor orders	61	48	83	71	263
Sewer orders	12	13	9	20	54
Vacating orders	54	24	14	13	105
Filling orders			3	1	4
Total	127	85	109	105	426
Grand total					714
Orders completed:					
Minor orders	37	28	59	74	198
Sewer orders	11	5	7	5	28
Vacating orders	14	34	15	14	77
Filling orders	2	1			3
Total	64	68	81	93	306
Orders cancelled:					
Minor orders	6	2		1	9
Sewer orders	6	4			10
Vacating orders		5			5
Filling orders					
Total	12	11		1	24
Grand total	76	79	81	94	330
Orders pending:					
December 31, 1920—					
Minor orders					116
Sewer orders					93
Vacating orders					91
Filling orders					84
Total					384

Statistics information, by districts.

[Manila only.]

	Health districts.					
	No. 1.	No. 2.	No. 4.	No. 5.	No. 6.	Total.
Strong material plans approved:						
New buildings including additions and alterations	269	337	197	188	120	1,111
Permits for minor buildings construction:						
Approved	100	210	66	67	37	480
Disapproved	5	22	6	11	2	46
New buildings completed	75	102	61	57	37	332
Light and mixed material structures—						
Permits approved	3		295	389	239	926
Permits disapproved	2		173	166	146	487
Total number of building projects passed upon	454	671	798	878	581	3,382

Statistical information, by quarters.

[Manila only.]

	First quarter.	Second quarter.	Third quarter.	Fourth quarter.	Total.
Strong material plans approved:					
New buildings including additions and alterations	321	284	300	206	1,111
Permits for minor building constructions:					
Approved	89	107	133	151	480
Disapproved	19	12	11	4	46
New buildings completed	50	75	95	112	332
Light and mixed material structures:					
Permits approved	230	243	232	221	926
Permits disapproved	104	96	154	133	487
Total number of building projects passed upon	813	817	925	827	3,382

Statistical information, by districts.

[Manila only.]

	Health districts.					
	No. 1.	No. 2.	No. 4.	No .5.	No. 6.	Total.
Plumbing permits issued	259	459	216	155	137	1,226
Plumbing projects completed	222	404	149	184	104	1,063
Premises connected to the sanitary sewer to January 1, 1920	1,386	2,451	855	356	316	5,364
Premises connected from January 1 to December 31, 1920	56	83	32	29	25	225
Total December 31, 1920	1,442	2,534	887	385	341	5,589

Statistical information, by quarters.

[Manila, P. I., only. Fiscal year ended December 31, 1920.]

	First quarter.	Second quarter.	Third quarter.	Fourth quarter.	Total.
Plumbing permits issued	300	361	325	240	1,226
Plumbing projects completed	212	257	342	252	1,063
Premises connected to the sanitary sewer to January 1, 1920	....	....	....	....	5,364
Premises connected from January 1 to December 31, 1920	38	56	67	64	225
Total December 31, 1920	....	....	....	....	5,589

Statistical information, by districts.

[Manila only.]

Health districts.	Prosecutions.		
	Convictions.	Dismissals.	Amount of fines.
No. 1	....	....	....
No. 2	7	1	₱70
No. 4	1	....	10
No. 5	....	....	....
No. 6	2	....	20
Total	10	1	100

Statistical information, by quarters.

[Manila, P. I., only. Fiscal year ended December 31, 1920.]

Health districts.	Prosecutions.		
	Convictions.	Dismissals.	Amount of fines.
First quarter			
Second quarter			
Third quarter			
Fourth quarter	10	1	₱100
Total	10	1	100

DRAFTING PROJECTS.

Project No.

6. Blue printing at intervals, 176 copies made from various tracings.
43. Work report completed at the end of every month.
511. Standard miscellaneous calculation tables, at intervals.
534. Miscellaneous office work, at intervals.
547. Chart for Philippine Health Service, 1920 Carnival, 95 per cent completed.
560. Plan of typical layout of rural home, 100 per cent completed.
561. Philippine Health Service statue for Carnival Exhibit, 100 per cent completed.
562. Plan showing common practice of building and house, 100 per cent completed.
563. Plan showing how house should be built, 100 per cent completed.
564. Block located in Tondo, city of Manila.
564. Block located in Tondo, city of Manila, showing location of nipa houses, 100 per cent completed.
565. Leveling and measuring of tennis court grounds at San Lazaro Hospital, 50 per cent completed.
566. Design for district inspector badge Philippine Health Service, 100 per cent completed.
567. Special details with sanitary inspectors, interview.
568. Tabulated charts for school garden day, 100 per cent completed.
569. Diagram of reorganization Philippine Health Service, 100 per cent completed.
570. Diagram of proposed consolidation of health and charity agencies into new department of health and charities, 100 per cent completed.
571. Scale for rapid determination of calories, 90 per cent completed.
572. Preparing plan showing health district No. 2, 100 per cent completed.
573. A stencil for automobiles for official use only, Philippine Health Service, 100 per cent completed.
574. Estimating radio station, employees quarters, operating and store house, Culion, Palawan, 100 per cent completed.
575. Diagram of health stations 1–2–5–6, 95 per cent completed
576. Sketch of a Ford automobile, 90 per cent completed.
577. Emblem for the Philippine Health Officer's Association, 90 per cent completed.

578. Model combination ambulance and disinfecting truck, 100 per cent completed.
579. Diagram, comparative infant mortality, death rate and birth rate for 1915–1919, 100 per cent completed.
580. Diagram, comparative death rate per 100,000 population by months from different diseases for 1920, Health Station No. 2, 100 per cent completed.
581. Varieties of septic tanks and filters, 90 per cent completed.
582. Retracted section of interior and exterior doors and back stays, 75 per cent completed.
583. T. B. hospital for Baguio, 50 per cent completed.
584. Special data of Santa Potenciana Building, 40 per cent completed.
585. Tracing of Culion Leper Colony Gate, 100 per cent completed.
586. Number of lepers admitted and remaining in Culion Leper Colony, Philippine Health Service, 100 per cent completed.
587. Lettering of drafting project book, Office of Sanitary Engineering, 40 per cent completed.
588. Comparative weekly and total mortality, and mortality under one year of age, 1919–1920, 100 per cent completed.
589. Making detail of charting the daily report of vaccinations, 80 per cent completed.
590. Cleaning drawing instruments and 100 M steel tape, 30 per cent completed.
591. Diagram of daily death, Station No. 1, 60 per cent completed.
592. Lettering of wooden signs, Philippine Health Service, 90 per cent completed.
593. Correcting plans of miscellaneous office work, Sanitary Engineering's Office, Philippine Health Service, 60 per cent completed.
594. Changing of plumbing inspection record card, Sanitary Engineering's Office, Philippine Health Service, 85 per cent completed.
595. Diagram of preventable diseases, Office of Statistics and Epidemiology, Philippine Health Service, 100 per cent completed.
596. Charts showing cases and deaths from typhoid fever in Manila by weeks, residents only, 1920, July, August and September, 100 per cent completed.
597. Special details with building inspectors, 50 per cent completed.
598. Charts showing daily deaths and births of Philippine Health Service, Station No. 1, 100 per cent completed.
599. Charts showing dangerous communicable diseases for the year 1920, Philippine Health Service, 100 per cent completed.
600. Lettering of daily service news, Philippine Health Service, 80 per cent completed.
601. Retracing of septic absorbing and discharging vault, 60 per cent completed.
602. Division of Sanitation, city of Manila, Weekly Health Index, death rate per 1,000 population in 1921, 100 per cent completed.
603. Division of Sanitation, city of Manila, Weekly Health Index, infant mortality per 1,000 births, 1921, 100 per cent completed.
604. Retracing of the diagram of the Division of Sanitation, city of Manila, 100 per cent completed.

REPORT OF THE PROPERTY OFFICE

(EUGENIO VIANA, *Acting Chief.*)

As per provisions of Special Order No. 4, paragraph 23, the writer took charge of this Office on April 17, 1920 to relieve Mr. B. D. Burnham, former Chief of this Office. A general inventory of property, for which Mr. Burnham was responsible, was accomplished as of April 30, 1920, by the Auditor's representative, Mr. S. Sarmiento and the writer, and as a result thereof a clearance was issued to Mr. Burnham.

During the writer's assignment as acting chief of this Office, to which only a part of his time was devoted on account of his duties as Superintendent of San Lazaro Hospital, the transaction of business of this Office was performed with some difficulty, and were it not for the efforts and assistance given by his assistants and other subordinates, the work could not have been carried out up-to-date.

The following itimized figures cover the principal activities performed by this Office during the year:

During the year three hundred and four general requisitions were received and filled, originating from the following stations:

Central Office	12
Office of Statistics	8
Office of Sanitary Engineering	16
Office of District Nursing	14
Health Stations	105
Disinfecting Squad	13
San Lazaro Hospital	15
Baguio Hospital	18
Culion Leper Colony	20
Sibul Springs	6
Vaccinating Parties	49
Provincial Requisitions	28
Total	304

Two hundred ninety two requisitions were prepared and forwarded to the Bureau of Supply for delivery to the following stations:

Culion Leper Colony	54
Baguio Hospital	21
San Lazaro Hospital	82
Office of Property	135
Total	292

One hundred and five requisitions were prepared and forwarded to the Bureau of Printing.

Orders for general supplies prepared under the direct order and payment system, 272.

Forty-nine commissary requisitions were received and filled originating from the following stations:

Culion Leper Colony	26
San Lazaro Hospital	15
Baguio Hospital	8
Total	49

Commissary requisitions forwarded to the Bureau of Supply:

For Culion Leper Colony	41
For San Lazaro Hospital	22
For Office of Property	9
For Baguio Hospital	12
Total	84

Orders for commissaries prepared under direct order and payment system.

For Culion Leper Colony	260
For Baguio Hospital	74
For San Lazaro Hospital	6
Total	340

Miscellaneuos orders prepared	250
Orders prepared for Culion merchandise account	276

Vaccine report

	Units.
On hand January 1, 1920	59,100
Received during the year	4,598,000
Total to be accounted for	4,757,100
Issued during the year	4,735,700
Remaining on hand December 31, 1920	21,400
Requisitions for vaccine virus received and filled	412

Shipment made during the year.

		Packages.	Kilos.	Cm.
By steamer	880	17,031	567,975.45	895.85
By railroad	254	945	30,371.35	68.75
Total	1,134	17,976	598,346.80	964.60

Inter-bureau vouchers and bills received and passed by the Office of Property:

	Number.	Amount.
Bureau of Supply	758	₱398,178.61
Bureau of Printing	16	17,478.47
Bureau Public Works	2	93.63
Bureau of Prisons	9	2,953.20
Bureau of Science	13	114,889.00
Bureau of Posts	8	1,959.00
Bureau of Agriculture	1	440.00
Bureau of Education	1	18.00
Division of Cold Storage	9	3,435.89
Philippine School of Arts and Trades	5	477.00
Open market	392	119,065.53
Total	1,214	558,988.33

CLERICAL DIVISION

(MAMERTO TIANCO, *Acting Chief.*)

Unlike the past years, the hardships encountered by this division in keeping the daily work up to date have acutely been felt, specially more so, during the latter part of the first semester and the beginning of the second as one of the oldest employees in the Bureau transferred to the Bureau of Audits early in the year. The Service further suffered by the retirement in the latter part of the year of an American employee who had also been connected with this Service early in its organization. The retirement necessitated the detail in this Office of the one who transferred.

There has practically been no increase in personnel altho the work has greatly increased in comparison with that handled during the previous year. Over 185,500 pieces of mail matter were handled consisting as follows: Thirty-five thousand pieces of correspondence received; 55,000 communications filed in the general files; 95,500 letters, orders and circulars and reports and bulletins mailed; 89 circulars and 280 special orders were issued during the year. In spite of the difficulties experienced in the Records Section, no errors of a very serious nature had been registered in the handling of correspondence or in the mailing of communications.

With reference to the movement. of personnel, there were, during the entire year, 69 probational appointments, 8 reinstatements, 7 appointments by transfer and 13 transfers from this Bureau and 41 resignations.

During the latter part of the year due to the transfer of the offices of the Bureau of Civil Service to another building, considerable innovations towards enlarging the offices of this division were made possible, altho the office equipment had not been made complete due to lack of funds. The offices of the division are now, however, better situated and arranged than during the past not only from a sanitary standpoint but also for purposes of administration.

The clerical office suffered much thru lack of personnel, which had not kept pace with the increase of work. This was especially felt in the accounting section of this Service. Nearly all of the employees cheerfully rendered much overtime work to keep the work up to date, altho it is believed that such situation will not be conducive to stability and efficiency of the personnel.

STATISTICAL TABLES

PHILIPPINE HEALTH SERVICE.

JANUARY 1 TO DECEMBER 31, 1920.

GENERAL STATISTICS.

[Unless otherwise stated these statistics are for the fiscal year from January 1 to December 31, 1920.]

ESTIMATED POPULATION OF THE CITY OF MANILA.

BY NATIONALITIES.

Nationality.	Population.
Americans	3,134
Filipinos	263,386
Spaniards	1,955
Other Europeans	1,126
Chinese	17,856
All Others	2,186
Total	289,643

BY DISTRICTS.

Health districts.	Population.
No. 1, Intramuros	35,614
No. 2, Meisic	99,209
No. 4, Sampaloc	47,009
No. 5, Tondo	76,797
No. 6, Paco	31,014
Total	289,643

MARRIAGES.

Nationality.	Total marriages.	Health districts—					Single males married—			Widowed males married—			Divorced males married—			Nationality of brides.						Relationship.	
		No. 1.	No. 2.	No. 4.	No. 5.	No. 6.	Single female.	Widowed female.	Divorced female.	Single female.	Widowed female.	Divorced female.	Single female.	Widowed female.	Divorced female.	Americans.	Filipinos.	Spaniards.	Other Europeans.	Chinese.	All Others.	Blood.	Affinity.
Americans	112	50	23	7	6	26	78	17	4	5	1	.....	3	1	3	30	64	1	15	.....	2	.....	.....
Filipinos	2,980	211	1,116	480	914	259	2,458	185	.....	204	133	.....	.....	.....	.....	.....	2,977	.....	.....	2	1	.....	.....
Spaniards	3	1	1	1	.....	.....	2	1	.....	.....	.....	.....	.....	.....	.....	.....	2	1	.....	.....	.....	.....	.....
Other Europeans	20	10	5	1	3	1	14	2	.....	.....	3	.....	1	.....	.....	3	9	1	7	.....	.....	.....	.....
Chinese	49	1	34	4	9	1	41	1	.....	4	3	.....	.....	.....	.....	.....	32	.....	.....	17	.....	.....	.....
All Others	7	1	4	.....	2	.....	2	1	.....	4	.....	.....	.....	.....	.....	.....	7	.....	.....	.....	.....	.....	.....
Total	3,171	274	1,183	493	934	287	2,595	207	4	217	140	.....	4	1	3	33	3,091	3	22	19	3	.....	.....

Average per thousand population, 21.89.

MARRIAGES, BY AGE.

Males.		Females.						
Age.	Number.	To 14 years.	To 20 years.	To 25 years.	To 30 years.	To 40 years.	To 50 years.	Over 50 years.
To 14 years	......	......	......	......	......	......	......	......
To 20 years	786	9	709	57	8	2	1	......
To 25 years	1,332	3	938	318	57	14	1	1
To 30 years	539	1	262	154	83	35	4	......
To 40 years	326	1	116	76	58	69	6	......
To 50 years	128	......	14	19	28	51	16	......
Over 50 years	60	......	6	4	4	17	17	12
Total	3,171	14	2,045	628	238	188	45	13

BIRTHS REPORTED.

Nationality.	Male.	Female.	Total.	Annual birth rate per 1,000.
Americans	72	66	138	44.08
Filipinos	6,084	5,698	11,782	44.73
Spaniards	29	35	64	32.73
Other Europeans	24	25	49	43.51
Chinese	279	232	511	28.61
All others	37	33	70	32.02
Total and average	6,525	6,089	12,614	43.55

BIRTHS, BY DISTRICTS.

Health districts.	Legitimates.			Illegitimates.			Grand total.	Annual birth rate per 1,000.
	Male.	Female.	Total	Male.	Female.	Total.		
No. 1, Intramuros	1,028	988	2,016	85	80	165	2,181	61.23
No. 2, Meisic	1,118	1,022	2,140	105	78	183	2,323	23.41
No. 4, Sampaloc	982	916	1,898	77	65	142	2,040	43.39
No. 5, Tondo	2,157	2,013	4,170	161	168	329	4,499	58.68
No. 6, Paco	764	718	1,482	48	41	89	1,571	50.65
Total	6,049	5,657	11,706	476	432	908	12,614	43.55

Number of births attended by—	Living.	Stillbirths.
Physician	2,778	206
Midwife	5,242	34
Family	4,594	208

BIRTHS, ACCORDING TO NUMBER OF CHILDREN BORNE BY MOTHER.

Number of births in the order in which the child was born, whether first child, second child, etc.	Living.			Stillborn.			Grand total.
	Male.	Female.	Total.	Male.	Female.	Total.	
First	1,555	1,373	2,928	56	60	116	3,044
Second	982	1,012	1,994	37	19	56	2,050
Third	912	848	1,760	21	21	42	1,802
Fourth	695	674	1,369	29	20	49	1,418
Fifth	599	552	1,151	22	18	40	1,191
Sixth	454	456	910	16	19	35	945
Seventh	395	342	737	13	14	27	764
Eighth	298	275	573	14	17	31	604
Ninth	219	220	439	3	6	9	448
Tenth	180	131	311	5	8	13	324
Eleventh	101	80	181	8	5	13	194
Twelfth	64	69	133	6	1	7	140
Thirteenth	31	17	48	4		4	52
Fourteenth	17	18	35	1	1	2	37
Fifteenth	10	13	23				23
Sixteenth	7	3	10	1	1	2	12
Seventeenth	4	4	8		1	1	9
Eighteenth	2	2	4				4
Nineteenth				1		1	1
Total	6,525	6,089	12,614	237	211	448	13,062

NUMBER OF DEATHS AND DEATH RATE PER 1,000 AMONG RESIDENTS, BY NATIONALITIES.

Nationality.	Male.	Female.	Total.	Annual death rate per 1,000.
Americans	24	13	37	11.80
Filipinos	3,825	3,413	7,238	27.48
Spaniards	30	7	37	18.92
Other Europeans	7	4	11	9.76
Chinese	279	49	328	18.36
All others	10	6	16	7.31
Total	4,175	3,492	7,667	26.47

A CLASSIFIED REPORT OF ALL DEATHS OCCURRING IN MANILA, INCLUDING TRANSIENTS.

Social condition.	Number.	
	Male.	Female.
Married	1,323	917
Divorced	2	1
Widowed	332	548
Single	644	236
Children	2,517	2,116
Condition not stated	47	21
Total	4,865	3,839
Grand total	[a]8,704	

Stillbirths	462
Number of deaths with medical attendance	5,275
Number of deaths without medical attendance	3,436

[a] Of this total, there are 7 deaths, sex and civil condition unknown, not included.

DEATHS, BY AGES.

Ages.	Residents.		Transients.		Total.
	Male.	Female.	Male.	Female.	
Under 30 days	432	341	21	14	808
30 days to under 1 year	975	742	91	71	1,879
1 year to under 2 years	388	372	20	26	806
2 years to 4 years	345	325	22	26	718
5 years to 9 years	133	124	13	11	281
10 years to 14 years	66	56	11	8	141
15 years to 19 years	136	101	51	19	307
20 years to 29 years	350	280	126	54	810
30 years to 39 years	257	285	94	41	677
40 years to 49 years	337	227	91	36	691
50 years to 59 years	277	165	73	15	530
60 years to 69 years	196	142	36	5	379
70 years to 79 years	140	115	7	8	270
80 years to 89 years	86	126	7	6	225
90 years to 99 years	50	80	1	1	132
100 years and over	....	10	....	....	10
Age not stated	7	1	3	2	13
Total	4,175	3,492	667	343	[a]8,677

[a] Of this total, there are 34 deaths, permanent residence unknown, not included.

DEATHS AND DEATH RATE PER 1,000, BY DISTRICTS, INCLUDING TRANSIENTS.

Health districts.	Deaths.	Annual death rate per 1,000.
No. 1, Intramuros	1,468	41.21
No. 2, Meisic	1,590	16.02
No. 4, Sampaloc	1 289	27.42
No. 5, Tondo	3,489	45.43
No. 6, Paco	875	28.21
Total	8,711	30.07

NUMBER OF DEATHS, WITH CAUSES, OCCURRING AMONG RESIDENTS AND TRANSIENTS IN THE CITY OF MANILA (STILLBIRTHS NOT INCLUDED).

Causes of death.	Americans.				Filipinos.				Spaniards.				Other Europeans.				Chinese.				All others.				Total.				Grand total.
	Residents.		Transients.		Residents.		Transients.		Residents.		Transients.		Residents.		Transients.		Residents.		Transients.		Residents.		Transients.		Residents.		Transients.		
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
I. General diseases.																													
1. Typhoid fever				1	134	92	27	23	1					1	2		2	1	2		4				141	94	31	24	290
4. Malaria			1		29	19	7	4											3		1		1		30	19	12	4	65
4a. Malarial cachexia					10	7											1								11	7			18
5. Smallpox					1		4																		1		4		5
6. Measless					5	7																			5	7			12
8. Whooping cough					4	1																			4	1			5
9. Diphtheria and croup					5	4	3	4									1								6	4	3	4	17
10. Influenza	1	1	1		12	19		3	1								1					2			15	22	1	3	41
12. Asiatic cholera						1	1										1								1	1	1		3
14. Dysentery	1	1	1	1	129	124	10	16	2					1			5	1	1		1				138	127	12	17	294
15. Plague																			1								1		1
17. Leprosy			1		1	2	3																		1	2	4		7
18. Erysipelas					8	8	1	2									1	1	1						9	9	2	2	22
19. Other epidemic diseases					2																				2				2
20. Purulent infection and septicæmia		1			17	11	10	5	2	1			1												20	13	10	5	48
22. Anthrax					5	2	1	1																	5	2	1	1	9
23. Rabies.						1	2																			1	2		3
24. Tetanus					51	33	10	2									2								53	33	10	2	98
27. Beriberi	1				349	199	26	17									5	1	1						355	200	27	17	599
28. Tuberculosis of the lungs	1		3		691	649	133	27	1	1	1		1				66	8	10		1			1	761	658	147	28	1,594
29. Acute miliary tuberculosis					9	4	3	3																	9	4	3	3	19
30. Tuberculosis meningitis					42	34	4	2							1		1					1			43	35	5	2	85
31. Abdominal tuberculosis					39	37	7	6	1								2				1				43	37	7	6	93
32. Pott's disease								1																				1	1
33. White swellings					2			1																	2			1	3
34. Tuberculosis of other organs					10	6																			10	6			16
35. Disseminated tuberculosis					6	2	2	3									2								8	2	2	3	15
36. Rickets					3	6																			3	6			9
37. Syphilis					9	3	2	1									1	1						1	10	4	2	2	18
38. Gonococcus infection																	1								1				1
39. Cancer and other malignant tumors of the buccal cavity					1	9																			1	9			10

40. *Cancer and other malignant tumors of the stomach, liver*		1			2	4	7	2	1	1				1			2		1						5	7	8	2	22
41. Cancer and other malignant tumors of the peritonæum, intestines, rectum					1	2	2	1																	1	2	2	1	6
42. Cancer and other malignant tumors of the female genital organs						13		4																		13		4	17
43. Cancer and other malignant tumors of the breast								1										1								1		1	2
44. Cancer and other malignant tumors of the skin					1	4																			1	4			5
45. Cancer and other malignant tumors of other organs and of organs not specified					15	13	1		1																16	13	1		80
46. Other tumors (tumors of the female genital organs excepted)						1	1																			1	1		2
47. Acute articular rheumatism					2	3											1								3	3			6
48. Chronic rheumatism and gout					11	8																			11	8			19
49. Scurvy					2	3																			2	3			5
50. Diabetes					7	4			1								1								9	4			13
51. Exophthalmic goitre						1												1								2			2
53. Leuchæmia					3																				3				3
54. Anæmia, chlorosis					7	6	2	1																	7	6	2	1	16
55. Other general diseases					4	4	1																		4	4	1		9
56. Alcoholism (acute or chronic)					1	1																			1	1			2
II. Diseases of the nervous system and of the organs of special sense.																													
60. Encephalitis					5	3	1	2																	5	3	1	2	11
61. Simple meningitis			1		164	136	9	8									2	1							166	137	10	8	321
62. Locomotor ataxia			2						1																1		2		3
63. Other diseases of the spinal cord					1		1																		1		1		2
64. Cerebral hæmorrhage, apoplexy		2			53	40	8	2	2				1		1		20		2		1				77	42	11	2	132
65. Softening of the brain																	2								2				2
66. Paralysis without specified cause					15	11	1	2																	15	11	1	2	29
67. General paralysis of the insane	1					1	2																		1	1	2		4
68. Other forms of mental alienation						4	1	2																		4	1	2	7
69. Epilepsy					2	4	1																1		2	4	2		8
70. Convulsions (nonpuerperal) (5 years and over)								1																				1	1
71. Convulsions of infants (under 5 years of age)		1			53	38	4	3									3	3							56	42	4	3	105
76. Diseases of the ears																		1								1			1

NUBER OF DEATHS, WITH CAUSES, OCCURRING AMONG RESIDENTS AND TRANSIENTS IN THE CITY OF MANILA (STILLBIRTHS NOT INCLUDED)—Continued.

Causes of death.	Americans.				Filipinos.				Spaniards.				Other Europeans.				Chinese.				All others				Total.				Grand total.
	Residents.		Transients.		Residents.		Transients.		Residents.		Transients.		Residents.		Transients.		Residents.		Transients.		Residents.		Transients.		Residents.		Transients.		
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
III. Diseases of the circulatory system.																													
77. Pericarditis					1																				1				1
78. Acute endocarditis				1	13	15	5	1	1				1				3								18	15	5	2	40
79. Organic diseases of the heart	4		4		56	37	16	8	4	1	2		1				40		4						105	38	26	8	177
80. Angina pectoris					11	7	1		1																12	7	1		20
81. Diseases of the arteries, atheroma, aneurysm, etc.			1		6	9	1	1	1								9								16	9	2	1	28
82. Embolism and thrombosis					2	2																			2	2			4
84. Diseases of the ymphatic system (lymphangitis, etc.)					1																				1				1
85. Hæmorrhage; other disaeses of the circulatory system					1	3	1																		1	3	1		5
IV. Diseases of the respiratory system.																													
87. Diseases of the larynx																	1								1				1
88. Diseases of the thyreoid body	1																								1				1
89. Acute bronchitis					333	297	21	18									5	3							338	300	21	18	677
90. Chronic bronchitis					114	121	5	7	1					1			10	1	1	1					125	123	6	8	262
91. Broncho-pneumonia			2	1	199	173	27	19	2		2		1		2		4		2						206	173	35	20	434
92. Pneumonia		1			53	48	27	8									5	2			1				59	51	27	8	145
93. Pleurisy	1				19	16	3	4									2								22	16	3	4	45
94. Pulmonary congestion, pulmonary apoplexy					3	5	1												1						3	5	2		10
95. Gangrene of the lungs							3		1																1		3		4
96. Asthma					12	16																			12	16			28
98. Other diseases of the respiratory system (tuberculosis excepted)					1						1					1	1								2		1	1	4

V. Diseases of the digestive system.																												
99. Diseases of the mouth and annexa	1				1	3																			2	3			5
102. Ulcer of the stomach					3	2	2	2									2	1	1						5	3	3	2	13
103. Other diseases of the stomach (cancer excepted)					13	4	2																		13	4	2		19
104. Diarrhœa and enteritis (under 2 years)		2		1	184	181	22	14									8	7		1		1	1		192	191	23	16	422
105. Diarrhœa and enteritis (2 years and over)					83	81	5	2	1								7		2						91	81	7	2	181
107. Intestinal parasites					3	2											1								4	2			6
108. Appendicitis and typhlitis	1				4	3	7	2	1														1		6	3	8	2	19
109. Hernia, intestinal obstructions		1			13	3	6	1					1				3								17	4	6	1	28
110. Other diseases of the intestines					1	1	1																		1	1	1		3
111. Acute yellow atrophy of the liver					2	2																			2	2			4
112. Hydatid tumor of the liver							1																				1		1
113. Cirrhosis of the liver					15	6	5	1									2								17	6	5	1	29
114. Biliary calculi					3																				3				3
115. Other diseases of the liver					8	8	10	2							1		4								12	8	11	2	33
117. Simple peritonitis (nonpuerperal)	1				8	12	9	8											1					1	9	12	10	9	40
118. Other diseases of the digestive system (cancer and tuberculosis excepted)							1																				1		1
VI. Nonvenereal diseases of the genito-urinary system and annexa.																													
119. Acute nephritis				1	48	54	6	9									7		1						55	54	7	10	126
120. Bright's disease	1	2			71	85	21	17		2					1		23	2	5						95	91	27	17	230
122. Other diseases of the kidneys and annexa				1	1	3		1																	1	3		2	6
123. Calculi of the urinary passages					2	1	2																		2	1	2		5
124. Diseases of the bladder					2	1	3																		2	1	3		6
126. Diseases of the prostate	1				4		1		1																6		1		7
128. Uterine hæmorrhage (nonpuerperal)						1																				1			1
129. Uterine tumor (noncancerous)						2																				2			2
130. Other diseases of the uterus						2																				2			2
131. Cysts and other tumors of the ovary				1		1																				1		1	2
132. Salpingitis and other diseases of the female genital organs						2																				2			2

NUBER OF DEATHS, WITH CAUSES, OCCURRING AMONG HESIDENTS AND TRANSIENTS IN THE CITY OF MANILA (STILLBIRTHS NOT INCLUDED)—Continued.

Causes of death.	Americans.				Filipinos.				Spaniards.				Other Europeans.				Chinese.				All others.				Total.				Grand total.
	Residents.		Transients.		Residents.		Transients		Residents.		Transients.		Residents.		Transients.		Residents.		Transients.		Residents.		Transients.		Residents.		Transients.		
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
VII. The puerperal state.																													
134. Accidents of pregnancy	...	...	...	...	...	2	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	2	4
135. Puerperal hæmorrhage	...	...	...	...	...	11	...	4	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	12	...	4	16
136. Other accidents of labor	...	...	...	...	...	4	...	3	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	5	...	3	8
137. Puerperal septicæmia	...	...	...	...	...	22	...	3	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	23	...	3	
138. Puerperal albuminuria and convulsions	...	...	...	...	...	11	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11	...	1	26 12
VIII. Diseases of the skin and of the cellular tissue.																													
142. Gangrene	...	...	...	...	7	3	3	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7	3	3	6	19
143. Furuncle	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	2
144. Acute abscess	...	...	1	...	...	2	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	1	3	6
145. Other diseases of the skin and annexa	...	...	...	...	2	3	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	2	4	...	1	7
IX. Diseases of the bones and of the organs of locomotion.																													
146. Diseases of the bones (tuberculosis excepted)	...	...	...	...	...	...	2	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	1	3
X. Malformations.																													
150. Congenital malformations (stillbirths not included):																													
(1) Hydrocephalus	...	...	...	...	1	1	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	2	1	...	4
(2) Congenital malformations of the heart	...	...	...	...	1	5	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	5	1	...	7
(3) Other congenital malformations	...	...	...	...	2	2	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	2	3	...	...	5
XI. Diseases of early infancy.																													
151. Congenital debility, icterus and sclerema:																													
(1) Premature birth (not stillborn)	...	...	...	...	13	14	3	2	...	...	...	...	...	...	...	...	3	...	...	1	...	...	...	...	16	14	3	3	36
(2) Congenital debility	1	...	...	...	336	275	7	13	...	...	...	...	...	...	...	...	7	6	...	...	...	2	...	...	344	283	7	13	647

152. *Other diseases peculiar to early infancy:*																													
(1) Injuries at birth (not stillborn)					1	2																			1	2			3
(2) Other causes peculiar to early infancy	1				16	12	5	3																	17	12	5	3	37
153. Lack of care					1	1																			1	1			2
XII. Old age.																													
154. Senility					143	214	5	2	1								2								146	214	5	2	367
XIII. Affections caused by external causes.																													
155. Suicide by poison					2	3	1										1								3	3	1		7
157. Suicide by hanging or strangulation						1	1	1																		1	1	1	3
159. Suicide by firearms	1				1																				2				2
160. Suicide by cutting or piercing instruments	1						1										1						1		2		2		4
165b. Other acute poisonings						2	1																			2	1		3
166. Conflagration					4	2																			4	2			6
167. Burns (conflagration excepted)					4	2		3																	4	2		3	9
169. Accidental drowning			1		10	1	3	1							1		3		2						14	1	7	1	23
170. Traumatism by firearms					2		1																		2		1		3
171. Traumatism by cutting or piercing instruments							1										1								1		1		2
172. Traumatism by fall			1		2	1	2																		2	1	3		6
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)					4	1	8	1											2						4	1	10	1	16
177. Starvation					1																				1				1
180. Lightning							3																				3		3
181. Electricity (lightning excepted)					1		1																		1		1		2
182. Homicide by firearms	4				4																				8				8
183. Homicide by cutting or piercing instruments					5	3	3												1						5	3	4		12
184. Homicide by other means							1																				1		1
185. Fractures (cause not specified)					11	2	6										1	1					1		12	3	7		22
186. Other external violence					10	2	5	1											1						10	2	6	1	19
XIV. Ill-defined diseases.																													
189. Cause of death not specified or ill-defined			1		23	15		2		1													1		23	16	2	2	43
Total	24	13	21	8	3,825	3,413	578	328	30	7	6	0	7	4	9	1	279	49	46	3	10	6	7	3	4,175	3,492	667	343	8,677
Grand total	37		29		7,238		906		37		6		11		10		328		49		16		10		7,667		1,010		8,677

NUMBER OF DEATHS BY NATIONALITY, SEX, AND AGE.

Causes of death.	Under 30 days.												30 days to under 1 year.											
	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
I. General diseases.																								
1. Typhoid fever															1									
4. Malaria			1													1								
5. Smallpox															1									
8. Whooping cough															3	1								
10. Influenza				1								1			3									
14. Dysentery														1	16	7								
18. Erysipelas			2	1											3	7								
19. Other epidemic diseases															1									
20. Purulent infection and septicæmia			1												6	4								
24. Tetanus			39	28					1						1									
27. Beriberi	1		45	27					1						306	172					2	1		
28. Tuberculosis of the lungs															3	4								
30. Tuberculous meningitis															10	8								
34. Tuberculosis of other organs															2	1								
35. Diseminated tuberculosis															1									
36. Rickets															1	2								
37. Syphilis			1												2	1					1			
49. Scurvy															1									
54. Anæmia, chlorosis			2																					
55. Other general diseases			2	1												1								
II. Diseases of the nervous system and of the organs of special sense.																								
61. Simple meningitis			2	2											78	48					2	1		
64. Cerebral hæmorrhage, apoplexy			1	2																				
71. Convulsions of infants (under 5 years of age)			22	8					1	1				1	28	27					2	1		
76. Diseases of the ears																						1		
IV. Diseases of the respiratory system.																								
89. Acute bronchitis			4	8											222	195					3	3		
90. Chronic bronchitis															40	41						1		

91. Broncho-pneumonia			3	5											79	53			1		1			
92. Pneumonia															6	3						1	1	
93. Pleurisy				1											4	3								
94. Pulmonary congestion, pulmonary apoplexy			2	3												1								
98. Other diseases of the respiratory system (tuberculosis excepted)								1																
V. Diseases of the digestive system.																								
103. Other diseases of the stomach (cancer excepted)															3	1								
104. Diarrhœa and enteritis (under 2 years)			3	5								1		3	120	107					6	5	1	
109. Hernias, intestinal obstructions			1												2						1			
110. Other diseases of the intestines																1								
114. Biliary calculi															1									
115. Other diseases of the liver			1												1									
117. Simple peritonitis (nonpuerperal)			1												1									
VI. Nonvenereal diseases of the genito-urinary system and annexa.																								
119. Acute nephritis				2											8	14								
120. Bright's disease															2	4								
VIII. Diseases of the skin and of the cellular tissue.																								
143. Furuncle															1									
145. Other diseases of the skin and annexa															2	3						1		
X. Malformations.																								
150. Congenital malformation (stillbirth not included):																								
(1) Hydrocephalus			1																			1		
(2) Congenital malformations of the heart			2	5																				
(3) Other congenital malformations			2	2						1														
XI. Diseases of early infancy.																								
151 Congenital debility icterus and sclerema																								
(1) Premature birth (not stillborn)			16	14					3	1						2								
(2) Congenital debility	1		260	209					6	6		2			83	78					1			

NUMBER OF DEATHS BY NATIONALITY, SEX, AND AGE—Continued.

Causes of death.	Under 30 days.												30 days to under 1 year.											
	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
152 Other diseases peculiar to early infancy:																								
(1) Injuries at birth (not stillborn)			1	2																				
(2) Other causes peculiar to early infancy	1		20	14											1	2								
153. Lack of care															1									
XIII. Affections caused by external causes.																								
177. Starvation			1																					
186. Other external violence			1																					
XIV. Ill-defined diseases.																								
189. Cause of death not specified or ill-defined			1	1																				
Total	3		438	341				1	12	9		4		5	1044	792			1		19	16	2	
Grand total	3		779		0		1		21		4		5		1,836		0		1		35		2	

NUMBER OF DEATHS BY NATIONALITY, SEX, AND AGE—Continued.

Causes of death.	1 year to under 2 years.												2 years to 4 years.											
	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
I. General diseases.																								
1. Typhoid fever	....	....	3	1	....	....	....	1	....	....	....	....	....	....	3	11	....	....	....	....	....	....	....	....
4. Malaria	....	....	2	1	....	....	....	....	....	....	....	....	....	....	5	1	....	....	....	....	....	....	....	....
5. Smallpox	....	....	3	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
6. Measles	....	....	1	3	....	....	....	....	....	....	....	....	....	....	2	3	....	....	....	....	....	....	....	....
8. Whooping cough	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....
9. Diphtheria and croup	....	....	2	5	....	....	....	....	1	....	....	....	....	....	6	3	....	....	....	....	....	....	....	....
10. Influenza	....	....	....	....	....	....	....	....	....	....	....	....	....	1	1	1	....	....	....	....	....	....	....	....
14. Dysentery	....	1	35	32	1	....	....	1	....	....	....	....	....	....	33	48	....	....	....	....	....	....	....	....
18. Erysepelas	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	1	....	....	....	....	....	....	....	....
19. Other epidemic diseases	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....
20. Purulent infection and septicæmia	....	....	1	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....
24. Tetanus	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	2	....	....	....	....	....	....	....	....
27. Beriberi	....	....	5	3	....	....	....	....	....	....	....	....	....	....	3	1	....	....	....	....	....	....	....	....
28. Tuberculosis of the lungs	....	....	6	6	....	....	....	....	....	....	....	....	....	....	16	14	....	....	....	....	....	....	....	....
30. Tuberculous meningitis	....	....	6	9	....	....	1	....	....	....	....	1	1	....	15	7	....	....	....	....	....	....	....	....
31. Abdominal tuberculosis	....	....	....	1	....	....	....	....	....	....	....	....	....	....	4	8	....	....	....	....	....	....	....	....
34. Tuberculosis of other organs	....	....	1	....	....	....	....	....	....	....	....	....	....	....	1	1	....	....	....	....	....	....	....	....
35. Disseminated tuberculosis	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
36. Rickets	....	....	....	3	....	....	....	....	....	....	....	....	....	....	2	1	....	....	....	....	....	....	....	....
37. Syphilis	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	1	....	....	....	....	....	....	....	....
44. Cancer and other malignant tumors of the skin	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....
45. Cancer and other malignant tumors of other organs and of organs not specified	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....
49. Scurvy	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	1	....	....	....	....	....	....	....	....
54. Anæmia, chlorosis	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....
55. Other general diseases	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....

NUMBER OF DEATHS BY NATIONALITY, SEX, AND AGE—Continued.

Causes of death.	1 year to under 2 years.												2 years to 4 years.											
	Ameri-cans.		Filipinos.		Span-iards.		Other Euro-peans.		Chinese.		All others.		Ameri-cons.		Filipinos.		Span-iards.		Other Euro-peans.		Chinese.		All others.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
II. Diseases of the nervous system and of the organs of special sense.																								
60. Encephalitis			2	1																				
61. Simple meningitis			44	43											31	35								
63. Other diseases of the spinal cord			1																					
64. Cerebral hæmorrhage, apoplexy			1	1																				
69. Epilepsy			1																					
71. Convulsions of infants (under 5 years of age)			3	3						1					4	3								
III. Diseases of the circulatory system.																								
77. Pericarditis															1									
78. Acute endocarditis			2	1											1									
79. Organic diseases of the heart													1			1								
84. Diseases of the lymphatic system (lymphangitis, etc.)															1									
IV. Diseases of the respiratory system.																								
89. Acute bronchitis			87	81					2						37	26								
90. Chronic bronchitis			25	34											30	31								
91. Broncho-pneumonia			55	35											43	49								
92. Pneumonia		1	4	7											6	4								
93. Pleurisy			8	3									1		3	1								
96. Asthma																3								
V. Diseases of the digestive system.																								
99. Other diseases of the mouth and annexa															1									
103. Other diseases of the stomach (cancer excepted)			1												3									
104. Diarrhœa and enteritis (under 2 years)			83	83					2	3														
105. Diarrhœa and enteritis (2 years and over)															63	58	1				3			
107. Intestinal parasites			1	1											1									
109. Hernias, intestinal obstructions															1									

111. *Acute yellow atrophy of the liver*				1											1									
113. Cirrhosis of the liver																1								
115. Other diseases of the liver																1								
117. Simple peritonitis (nonpuerperal)															1									
VI. Nonvenereal diseases of the genito-urinary system and annexa.																								
119. Acute nephritis			8	11											14	8								
120. Bright's disease			4	8											10	11								
VIII. Diseases of the skin and of the cellular tissue.																								
142. Gangrene				1											3	3								
144. Acute abscess				1																				
145. Other diseases of the skin and annexa				1																				
IX. Diseases of the bones and of the organs of locomotion.																								
146. Diseases of the bones (tuberculosis excepted)																1								
X. Malformations.																								
150. Congenital malformations (stillbirth not included):																								
(1) Hydrocephalus																1								
XI. Diseases of early infancy.																								
151. Congenital debility, icterus and sclerema:																								
(2) Congenital debility				1																				
XIII. Affections caused by external causes.																								
167. Burns (conflagration excepted)																3								
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)																1								
186. Other external violence																1								
XIV. Ill-defined diseases.																								
189. Cause of death not specified or ill-defined			5	6											7	3								
Total	....	2	401	388	1	....	1	2	5	5	....	1	2	1	361	350	1	....	....	....	3	....	....	....
Grand total	2		789		1		3		10		1		3		711		1		....		3		....	

NUMBER OF DEATHS BY NATIONALITY, SEX, AND AGE—Continued.

Causes of death.	5 years to 9 years.												10 years to 14 years.											
	Americans.		Filipinos.		Spaniards		Other Europeans.		Chinese.		All others.		Americans.		Filipinos.		Spaniards		Other Europeans.		Chinese.		All others.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
I. General diseases.																								
1. Typhoid fever		1	7	16											18	19						1		
4. Malaria				1											2									
4. Malaria cachexia				1																	1			
6. Measles			2	1																				
10. Influenza																1								
14. Dysentery			29	18					2	1					2	6					1			
18. Erysepelas			1																					
20. Purulent infection and septichæmia			2	2											2									
24. Tetanus			4	1											2	1								
28. Tuberculosis of the lungs			8	16											9	13					2	1		
30. Tuberculous meningitis			6	6												4								
31. Abdominal tuberculosis			3	2											1	1								
34. Tuberculosis of other organs			2	1																				
35. Disseminated tuberculosis			1												1						1			
49. Scurvy				1																				
53. Leuchæmia															1									
55/ Other general diseases																1/								
48 Chronic rheumatism & gout																								
II. Diseases of the nervous system and of the organs of special sense.																								
60. Encephalitis				1																				
61. Simple meningitis			8	8											3									
64. Cerebral hæmorrhage, apoplexy			1																					
III. Diseases of the circulatory system.																								
78. Acute endocarditis			1	8																				
79. Organic diseases of the heart			1	1											2	3								
85. Hæmorrhage; other diseases of the circulatory system															1									
IV. Diseases of the respiratory system.																								
89. Acute bronchitis			3	5																				
90. Chronic bronchitis			6	4												1								
91. Broncho-pneumonia			10	15					2							4								

92. *Pneumonia*			2	2					1						1	1								
93. Pleurisy			1	3												1								
96. Asthma			2																					
V. Diseases of the digestive system.																								
103. Other diseases of the stomach (cancer excepted)			1																					
105. Diarrhœa and enteritis (2 years and over)			12	10					1						2	2					1			
107. Intestinal parasites			1	1					1															
109. Hernias, intestinal obstructions			1												2									
110. Other diseases of the intestines			1																					
117. Simple peritonitis (nonpuerperal)				2											1	2								
VI. Nonvenereal diseases of the genito-urinary system and annexa.																								
119. Acute nephritis			4	3																	2			
120. Bright's disease			8	2											11	1								
123. Calculi of the urinary passages			1																					
VIII. Diseases of the skin and of the cellular tissue.																								
142. Gangrene			3	2																				
X. Malformations.																								
150. Congenital malformations (still-births not included):																								
(1) Hydrocephalus			1																					
XIII. Affections caused by external causes.																								
155. Suicide by poison																					1			
167. Burns (conflagration excepted)				1																				
169. Accidental drowning			1	1											4						1			
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)			3	1											1									
185. Fractures (cause not specified)				1						1														
186. Other external violence			1																					
XIV. Ill-defined diseases.																								
189. Cause of death not specified or ill-defined			1												1									
Total		1	139	132					7	2					67	62					10	2		
Grand total	1		271		0		0		9		0		0		129		0		0		12		0	

NUMBER OF DEATHS BY NATIONALITY, SEX, AND AGE—Continued.

Causes of death.	15 years to 19 years.												20 years to 29 years.											
	Americans.		Filipinos.		Spaniards		Other Europeans.		Chinese.		All others.		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
I. General diseases.																								
1. Typhoid fever			37	22					1						51	29	1		1		2		3	
4. Malaria			4	4					2						5	3								
4a. Malarial cachexia															2									
5. Smallpox															1									
10. Influenza			4	3											1	1	1							1
12. Asiatic cholera				1																				
14. Dysentery			2	1											8	6							1	
15. Plague																					1			
17. Leprosy															1									
18. Erysipelas									1						2	1								
20. Purulent infection and septicæmia			1	1										1	4	4			1					
22. Anthrax				1												2								
24. Tetanus			3												4	1								
27. Beriberi			3	2					1						6	2					2			
28. Tuberculosis of the lungs	1		56	38					3						185	141	1	1	1		8	4	1	
29. Acute miliary tuberculosis			2	4											4	1								
30. Tuberculous meningitis			1												5	1					1			
31. Abdominal tuberculosis															7	5					1		1	
34. Tuberculosis of other organs															1									
35. Disseminated tuberculosis			2													2					1			
37. Syphilis															2	1								1
39. Cancer and other malignant tumors of the buccal cavity			1																					
40. Cancer and other malignant tumors of the stomach, liver															2									
41. Cancer and other malignant tumors of the peritonæum, intestines, rectum															1	2								
45. Cancer and other malignant tumors of other organs and of organs not specified			1	1											1	1								
46. Other tumors (tumors of the female genital organs excepted)															1	1								

47. *Acute articular rheumatism*								1															
50. Diabetes														1									
51. Exopthalmic goitre																					1		
53. Leuchæmia														2									
54. Anæmia, chlorosis				2										1	1								
55. Other general diseases														1									
II. Diseases of the nervous system and of the organs of special sense.																							
60. Encephalitis														2	1								
61. Simple meningitis			2	1										4	1								
64. Cerebral hæmorrhage, apoplexy		1	3	1										2	2								
65. Softening of the brain																				1			
66. Paralysis without specified cause														3	1								
68. Other forms of mental alienation															3								
69. Epilepsy			1											1	1								
70. Convulsions (nonpuerperal) (5 years and over)															1								
III. Diseases of the circulatory system.																							
78. Acute endocarditis			3	1					2					3	5					1			
79. Organic diseases of the heart			6	1										14	6					2			
80. Angina pectoris			1	2										1	2								
85. Hæmorrhage diseases of the circulatory system															1								
IV. Diseases of the respiratory system.																							
87. Diseases of the larynx								1															
88. Diseases of the thyreoid body												1											
89. Acute bronchitis														1									
90. Chronic bronchitis															2								
91. Broncho-pneumonia			3	4					3				1		7	8							
92. Pneumonia			6	1										19	11					2	1		
93. Pleurisy			3	2										2	2					1			
94. Pulmonary congestion, pulmonary apoplexy														1						1			
V. Diseases of the digestive system.																							
102. Ulcer of the stomach			1																	2			
103. Other diseases of the stomach (cancer excepted)														2	2								
105. Diarrhœa and enteritis (2 years and over)				1										1	1								
108. Appendicitis and typhlitis			1	1										2	1								
109. Hernias, intestinal obstructions														2	1			1					
111. Acute yellow atrophy of the liver				1																			
113. Cirrhosis of the liver			1	2										1									
114. Biliary calculi														1									
115. Other diseases of the liver														3	3								
117. Simple peritonitis (nonpuerperal)			1	2										6	5					1			1

NUMBER OF DEATHS BY NATIONALITY, SEX, AND AGE—Continued.

Causes of death.	15 years to 19 years.												20 years to 29 years.											
	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
VI. Nonvenereal diseases of the genito-urinary system and annexa.																								
119. Acute nephritis			3	2					3						6	10					1			
120. Bright's disease			3	3						1					9	10			1					
122. Other diseases of the kidneys and annexa														1										
123. Calculi of the urinary passages															1									
124. Diseases of the bladder															1									
128. Uterine hæmorrhage (nonpuerperal)				1																				
130. Other diseases of the uterus																1								
VII. The puerperal state.																								
134. Accidents of pregnancy																1								
135. Puerperal hæmorrhage																5								
136. Other accidents of labor				1												5								
137. Puerperal septicæmia				2												13								
138. Puerperal albuminuria and convulsions				4												5								
VIII. Diseases of the skin and of the cellular tissue.																								
142. Gangrene															1	1								
144. Acute abscess				1												1								
IX. Diseases of the bones and of the organs of locomotion.																								
146. Diseases of the bones (tuberculosis excepted)			1												1									

XIII. Affections caused by external causes.																								
155. Suicide by poison															1	3								
157. Suicide by hanging or stangulation				1																				
160. Suicide by cutting or piercing instruments																					1		1	
165b. Other acute poisonings				2																				
166. Conflagration															2									
167. Burns (conflagration excepted)			1												2									
169. Accidental drowning			2						1						5									
170. Traumatism by firearms			1																					
172. Traumatism by fall	1		2												1									
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)			2												4									
180. Lightning															1									
181. Electricity (lightning excepted)															1									
182. Homicide by firearms															4									
183. Homicide by cutting or piercing instruments															4	2							1	
185. Tractures (cause not specified)			1												4									
186. Other external violence															4									
XIV. Ill-defined diseases.																								
189. Cause of death not specified or ill-defined			1	1											2									
Total	2	1	166	118					19	1			2	2	431	322	3	1	5		29	6	8	3
Grand total	3		284						20				4		753		4		5		35		11	

NUMBER OF DEATHS BY NATIONALITY, SEX, AND AGE—Continued.

Causes of death.	30 years to 39 years.												40 years to 49 years.											
	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
I. General diseases.																								
1. Typhoid fever			21	10			1								12	5					1		1	
4. Malaria	1		4	5							2				4	1					1			
4a. Malarial cachexia			2												3	2								
10. Influenza	1		1	3					1				1			1								
12. Asiatic cholera			1						1															
14. Dysentery			6	8					1				1		1	7					1			
17. Leprosy			1												1									
20. Purulent infection and septicæmia			1	2	1	1									2	3	1							
22. Anthrax			2												3									
23. Rabies				1																				
24. Tetanus			2	1											2						1			
27. Beriberi			1	5											5	2								
28. Tuberculosis of the lungs			182	169					10	2			2		144	128	1				25	1		1
29. Acute miliary tuberculosis			1	2											2									
30. Tuberculous meningitis			2	1																				
31. Abdominal tuberculosis			7	9											6	8	1				1			
32. Pott's disease				1																				
33. White swellings															1									
34. Tuberculosis of other organs															2	1								
35. Disseminated tuberculosis															3	1								
37. Syphilis			1												2	1								
38. Gonococcus infection									1															
39. Cancer and other malignant tumors of the buccal cavity				1																				
40. Cancer and other malignant tumors of the stomach, liver		1	2												2	2				1	2			
41. Cancer and other malignant tumors of the peritonæum, intestines, rectum				1																				
42. Cancer and other malignant tumors of the female genital organs				4												7								
43. Cancer and other malignant tumors of the breast																1								

44. Cancer and other malignant tumors of the skin																1							
45. Cancer and other malignant tumors of the organs and of organs not specified				2											4	4							
47. Acute articular rheumatism															2	2							
48. Chronic rheumatism and gout			1	1											1	1							
49. Scurvy																1							
50. Diabetes			1																		1		
54. Anæmia, chlorosis			1	1											2	2							
55. Other general diseases				1											1								
56. Alcoholism (acute or chronic)				1																			
II. Diseases of the nervous system and of the organs of special sense.																							
60. Encephalitis			2	1												1							
61. Simple meningitis			1										1										
62. Locomotor ataxia													1										
64. Cerebral hæmorrhage, apoplexy			3	3					1						7	6			1		7		
65. Softening of the brain																					1		
66. Paralysis without specified cause															3	4							
67. General paralysis of the insane			1	1									1										
68. Other forms of mental alienation																2							
69. Epilepsy				1																		1	
III. Diseases of the circulatory system.																							
78. Acute endocarditis				2										1	4		1		1				
79. Organic diseases of the heart	2		8	3					1				2		10	3	3				21		
80. Angina pectoris			1												3		1						
81. Diseases of the arteries, atheroma, aneurysm, etc																	1				3		
82. Embolism and thrombosis			1																				
85. Hæmorrhage; other diseases of the circulatory system				1																			
IV. Diseases of the respiratory system.																							
90. Chronic bronchitis																1						1	
91. Broncho-pneumonia	1		5	5			1							1	4	4	1						
92. Pneumonia			9	10											10	5					2		
93. Pleurisy				1					1						1	1							
94. Pulmonary congestion, pulmonary apoplexy				1											1								
95. Gangrene of the lungs			2														1						
96. Asthma			2												2	5							
98. Other diseases of the respiratory system (tuberculosis excepted)			1														1				1		

NUMBER OF DEATHS BY NATIONALITY, SEX, AND AGE—Continued.

Causes of death.	30 years to 39 years.												40 years to 49 years.											
	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
V. Diseases of the digestive system.																								
99. Other diseases of the mouth and annexa	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	1	....	....	....	....	....	....	....	....
102. Ulcer of the stomach	....	....	....	2	....	....	....	....	....	1	....	....	....	....	1	1	....	....	....	....	....	....	....	....
103. Other diseases of the stomach (cancer excepted)	....	....	1	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....
105. Diarrhœa and enteritis (2 years and over)	....	....	....	1	....	....	....	....	....	....	....	....	....	....	1	3	....	....	....	....	2	....	....	....
108. Appendicitis and typhlitis	....	....	1	1	....	....	....	....	....	....	....	....	1	....	5	1	....	....	....	....	....	....	1	....
109. Hernias, intestinal obstructions	....	1	2	1	....	....	....	....	....	....	....	....	....	....	3	1	....	....	....	....	....	....	....	....
110. Other diseases of the intestines	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
111. Acute yellow atrophy of the liver	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
112. Hydatid tumor of the liver	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....
113. Cirrhosis of the liver	....	....	2	....	....	....	....	....	....	....	....	....	....	....	8	1	....	....	....	....	1	....	....	....
114. Biliary calculi	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....
115. Other diseases of the liver	....	....	4	4	....	....	....	....	1	....	....	....	....	....	6	....	....	....	....	....	1	....	....	....
117. Simple peritonitis (nonpuerperal)	....	....	3	3	....	....	....	....	....	....	....	....	1	....	1	5	....	....	....	....	....	....	....	....
VI. Nonvenereal diseases of the genito-urinary system and annexa.																								
119. Acute nephritis	....	1	1	2	....	....	....	....	....	....	....	....	....	....	6	2	....	....	....	....	1	....	....	....
120. Bright's disease	1	1	4	12	....	....	....	....	....	1	....	....	....	....	11	11	....	....	....	....	9	....	....	....
122. Other diseases of the kidneys and annexa	....	....	....	2	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....
123. Calculi of the urinary passages	....	....	1	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....
124. Diseases of the bladder	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
129. Uterine tumor (noncancerous)	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	....	....	....	....	....	....	....	....
130. Other diseases of the uterus	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....
131. Cysts and other tumors of the ovary	....	....	....	1	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....
132. Salpingitis and other diseases of the female genital organs	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....

VII. The puerperal state.																								
134. Accidents of pregnancy	....	1	......	2	....	....	....	....	....	....	....	....	....	....	......	1	....	....	....	....	....	....	....	....
135. Puerperal hæmorrhage	....	....	......	9	....	....	....	....	....	1	....	....	....	....	......	1	....	....	....	....	....	....	....	....
136. Other accidents of labor	....	....	......	1	....	....	....	....	....	1	....	....	....	....	......	......	....	....	....	....	....	....	....	....
137. Puerperal septicæmia	....	....	......	9	....	....	....	....	....	....	....	....	....	....	......	1	....	....	....	....	....	1	....	....
138. Puerperal albuminuria and convulsions	....	....	......	2	....	....	....	....	....	....	....	....	....	....	......	1	....	....	....	....	....	....	....	....
VIII. Diseases of the skin and of the cellular tissue.																								
142. Gangrene	....	....	......	......	....	....	....	....	....	....	....	....	....	....	......	1	....	....	....	....	....	....	....	....
144. Acute abscess	1	....	......	......	....	....	....	....	....	....	....	....	....	....	......	1	....	....	....	....	....	....	....	....
XIII. Affections caused by external causes.																								
155. Suicide by poison	....	....	1	......	....	....	....	....	....	....	....	....	....	....	......	......	....	....	....	....	....	....	....	....
157. Suicide by hanging or strangulation	....	....	......	......	....	....	....	....	....	....	....	....	....	....	1	......	....	....	....	....	....	....	....	....
159. Suicide by firearms	....	....	1	......	....	....	....	....	....	....	....	....	1	....	......	......	....	....	....	....	....	....	....	....
166. Conflagration	....	....	1	1	....	....	....	....	....	....	....	....	....	....	1	......	....	....	....	....	....	....	....	....
169. Accidental drowning	1	....	3	1	....	....	....	....	1	....	....	....	....	....	2	......	....	....	2	....	1	....	....	....
170. Traumatism by firearms	....	....	1	......	....	....	....	....	....	....	....	....	....	....	1	......	....	....	....	....	....	....	....	....
171. Traumatism by cutting or piercing instruments	....	....	......	......	....	....	....	....	....	....	....	....	....	....	1	......	....	....	....	....	....	....	....	....
172. Traumatism by fall	....	....	......	1	....	....	....	....	....	....	....	....	....	....	1	......	....	....	....	....	....	....	....	....
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)	....	....	1	......	....	....	....	....	....	....	....	....	....	....	1	......	....	....	....	....	....	....	....	....
180. Lightning	....	....	2	......	....	....	....	....	....	....	....	....	....	....	......	......	....	....	....	....	....	....	....	....
181. Electricity (lightning excepted)	....	....	1	......	....	....	....	....	....	....	....	....	....	....	......	......	....	....	....	....	....	....	....	....
182. Homicide by firearms	....	....	......	......	....	....	....	....	....	....	....	....	4	....	......	......	....	....	....	....	....	....	....	....
183. Homicide by cutting or piercing instruments	....	....	2	1	....	....	....	....	1	....	....	....	....	....	......	......	....	....	....	....	....	....	....	....
184. Homicide by other means	....	....	......	......	....	....	....	....	....	....	....	....	....	....	1	......	....	....	....	....	....	....	....	....
185. Fractures (cause not specified)	....	....	3	......	....	....	....	....	....	....	....	....	....	....	4	1	....	....	....	....	....	....	....	....
186. Other external violence	....	....	5	......	....	....	....	....	....	....	....	....	....	....	2	1	....	....	....	....	1	....	....	....
XIV. Ill-defined diseases.																								
189. Cause of death not specified or ill-defined	....	....	1	......	....	....	....	....	....	....	1	....	....	....	......	4	....	....	....	....	....	....	....	....
Total	8	5	320	315	1	1	2	....	20	6	3	....	17	3	311	255	12	....	4	1	84	3	3	1
Grand total	13		635		2		2		26		3		20		566		12		5		87		4	

NUMBER OF DEATHS BY NATIONALITY, SEX, AND AGE—Continued.

Causes of death.	50 years to 59 years.												60 years to 69 years.											
	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
I. General diseases.																								
1. Typhoid fever			5	1											1									
4. Malaria			5	1											1	3								
4a. Malarial cachexia			1	1											1	3								
10. Influenza			1	1											1	2								
14. Dysentery	1		2	1					1						3	2	1							
17. Leprosy	1		1													1								
18. Erysipelas									1	1														
20. Purulent infection and septicæmia			4																					
22. Anthrax			1																					
23. Rabies															2									
24. Tetanus			1	1											2									
27. Beriberi			1													2								
28. Tuberculosis of the lungs	1		108	78					25						73	47					3			
29. Acute miliary tuberculosis															1									
30. Tuberculous meningitis															1									
31. Abdominal tuberculosis			7	4											8	4								
33. White swellings			1	1																				
34. Tuberculosis of other organs				2																				
35. Disseminated tuberculosis				1																				
37. Syphilis			2																					
39. Cancer and other malignant tumors of the buccal cavity				1												4								
40. Cancer and other malignant tumors of the stomach, liver			2	2		1			1						1	1	1							
41. Cancer and other malignant tumors of the peritonæum, intestines, rectum			1																					
42. Cancer and other malignant tumors of the female genital organs				4												1								
43. Cancer and other malignant tumors of the breast										1														
44. Cancer and other malignant tumors of the skin			1	2																				

45. Cancer and other malignant tumors of the organs and of organs not specified			4	1											4	1	1							
47. Acute articular rheumatism				1																				
48. Chronic rheumatism and gout			2												4	4								
50. Diabetes			3												2	3	1							
51. Exopthalmic goitre																1								
54. Anæmia, chlorosis			1												1									
56. Alcoholism (acute or chronic)			1																					
II. Diseases of the nervous system and of the organs of special sense.																								
61. Simple meningitis				2												1								
62. Locomotor ataxia	1																1							
63. Other diseases of the spinal cord															1									
64. Cerebral hæmorrhage, apoplexy			9	8	1				10		1			1	17	7	1				4			
66. Paralysis without specified cause			3	1											1	4								
68. Other forms of mental alienation			1													1								
69. Epilepsy				1																				
III. Diseases of the circulatory system.																								
78. Acute endocarditis			3	2											1	1								
79. Organic diseases of the heart	3		9	9	1				17						9	9	1	1	1		3			
80. Angina pectoris			3	1											3	1								
81. Diseases of the arteries, atheroma, aneurysm, etc	1		2						5							3					1			
82. Embolism and thrombosis				1											1	1								
85. Hæmorrhage; other diseases of the circulatory system				1											1									
IV. Diseases of the respiratory system.																								
90. Chronic bronchitis			2	3					1						7	4	1			1	10			
91. Broncho-pneumonia			7	5	2										4	1	1		1					
92. Pneumonia			9	5											5	3								
93. Pleurisy				1																				
95. Gangrene of the lungs			1																					
96. Asthma			1	3											4	1								
V. Diseases of the digestive system.																								
99. Other diseases of the mouth and annexa																2								
102. Ulcer of the stomach			3						1															
103. Other diseases of the stomach (cancer excepted)			1												1	1								
105. Diarrhœa and enteritis (2 years and over)			5	2					2						2	3								
108. Appendicitis and typhlitis			2	1	1																			
109. Hernias, intestinal obstructions			3	1					2															

NUMBER OF DEATHS BY NATIONALITY, SEX, AND AGE—Continued.

Causes of death.	50 years to 59 years.												60 years to 69 years.											
	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Famale.	Male.	Female.	Male.	Female.	Male.	Famale.	Male.	Female.
V. Diseases of the digestive system.—Ctd.																								
113. Cirrhosis of the liver			3	2					1						3	1								
115. Other diseases of the liver			2	2					2						1				1					
117. Simple peritonitis (nonpuerperal)			2													1								
118. Other diseases of the digestive system (cancer and tuberculosis excepted)															1									
VI. Nonvenereal diseases of the genito-urinary system and annexa.																								
119. Acute nephritis			3	2					1							2								
120. Bright's disease			12	14		1			13						10	13					6			
122. Other diseases of the kidneys and annexa				1											1									
123. Calculi of the urinary passages																1								
124. Diseases of the bladder			1												1	1								
126. Diseases of the prostate			2												1		1							
132. Salpingitis and other diseases of the female genital organs				1																				
VIII. Diseases of the skin and of the cellular tissue.																								
142. Gangrene			1												1	1								
144. Acute abscess				1																				
XIII. Affections caused by external causes.																								
155. Suicide by poison			1																					
157. Suicide by hanging or strangulation				1																				
160. Suicide by cutting or piercing instruments			1																					
165b. Other acute poisonings															1									

166. Conflagration				1																				
169. Accidental drowning					1				2															
171. Traumatism by cutting or piercing instruments																								
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)																					1			
183. Homicide by cutting or piercing instruments			2																		2			
185. Fractures (cause not specified)															3									
186. Other external violence			1																					
XIV. Ill-defined diseases.																								
189. Cause of death not specified or ill-defined				1											2	1	~~1~~							
Total	8	....	250	176	6	2	....	....	85	2	1	....	....	1	189	143	10	2	3	1	30	....		....
Grand total	8		426		8		....		87		1		1		332		12		4		30		....	

NUMBER OF DEATHS BY NATIONALITY, SEX, AND AGE—Continued.

Causes of death.	70 years and over.												Unknown.											
	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
I. General diseases.																								
1. Typhoid fever			2													1								
4. Malaria			3	2																				
4a. Malaria cachexia			1																					
10. Influenza				8																				
14. Dysentery			2	3												1								
17. Leprosy				1																				
20. Purulent infection and septicæmia			1												1									
28. Tuberculosis of the lungs			36	22											2									
29. Acute miliary tuberculosis			1												1									
31. Abdominal tuberculosis			3	1																				
34. Tuberculosis of other organs			1																					
37. Syphilis			1																					
39. Cancer and other malignant tumors of the buccal cavity				3																				
40. Cancer and other malignant tumors of the stomach, liver				1											1									
41. Cancer and other malignant tumors of the peritonæum, intestines, rectum			1																					
42. Cancer and other malignant tumors of the female genital organs				1																				
45. Cancer and other malignant tumors of other organs and of organs not specified			1	3																				
48. Chronic rheumatism and gout			3	1																				
50. Diabetes				1																				
54. Anæmia, chlorosis				1																				
II. Diseases of the nervous system and of the organs of special sense.																								
61. Simple meningitis				2												1								
64. Cerebral hæmorrhage, apoplexy			17	12			1																	
65. Softening of the brain																								

66. Paralysis without specified cause			6	3																				
67. General paralysis of the insane															1									
69. Epilepsy				1																				
III.Diseases of the circulatory system.																								
78. Acute endocarditis				1																				
79. Organic diseases of the heart			14	9	1																			
80. Angina pectoris				1																				
81. Diseases of the arteries, atheroma, aneurysm, etc.			5	7																				
IV. Diseases of the respiratory system.																								
90. Chronic bronchitis			9	7																				
91. Broncho-pneumonia			6	4																				
92. Pneumonia			2	4											2									
93. Pleurisy				1																				
96. Asthma			1	4																				
V. Diseases of the digestive system.																								
102. Ulcer of the stomach				1																				
103. Other diseases of the stomach (cancer excepted)			1																					
105. Diarrhœa and enteritis (2 years and over)			2	2																				
107. Intestinal parasites																								
108. Appendicitis and typhlitis																								
109. Hernias, intestinal obstructions			1																					
113. Cirrhosis of the liver			2																					
VI. Nonvenereal diseases of the genito-urinary system and annexa.																								
119. Acute nephritis			1	5																				
120. Bright's disease		1	8	14		1																		
124. Diseases of the bladder			1																					
126. Diseases of the prostrate	1		2																					
VIII. Diseases of the skin and of the cellular tissue.																								
142. Gangrene			1																					
143. Furuncle																1								
XII. Old age.																								
154. Senility			148	217	1				2															

NUMBER OF DEATHS BY NATIONALITY, SEX, AND AGE—Continued.

Causes of death.	70 years and over.												Unknown.											
	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
XIII. Affections caused by external causes.																								
160. Suicide by cutting or piercing instruments													1											
166. Conflagration															7									
167. Burns (conflagration excepted)			1	1																				
169. Accidental drowning			1												7									
172. Traumatism by fall															2									
~~188.~~ Homicide by cutting or piercing instrument																1								
185. Fractures (cause not specified)			1												1						1			
186. Other external violence			1	1																				
XIV. Ill-defined diseases.																								
189. Cause of death not specified or ill-defined			1										1		1									
Total	1	1	288	345	2	1	1	....	2	....	....	....	2	....	26	5	....	....	....	....	1	....	....	....
Grand total	2		633		3		1		2		....		2		31		....		....		1		....	

NUMBER OF DEATHS BY NATIONALITY, SEX, AND AGE—Continued.

Causes of death.	Total.												Grand total.
	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
I. General diseases.													
1. Typhoid fever		1	161	115	1		2	1	4	1	4		290
4. Malaria	1		36	23					3		2		65
4a. Malaria cachexia			10	7					1				18
5. Smallpox			5										5
6. Measles			5	7									12
8. Whooping cough			4	1									5
9. Diphtheria and croup			8	8					1				17
10. Influenza	2	1	12	22	1				1			2	41
12. Asiatic cholera			1	1					1				3
14. Dysentery	2	2	139	140	2			1	6	1	1		294
15. Plague									1				1
17. Leprosy	1		4	2									7
18. Erysipelas			9	10					2	1			22
19. Other epidemic diseases			2										2
20. Purulent infection and septichæmia		1	27	16	2	1	1						48
22. Anthrax			6	3									9
23. Rabies			2	1									3
24. Tetanus			61	35					2				98
27. Beriberi	1		375	216					6	1			599
28. Tuberculosis of the lungs	4		828	676	2	1	1		76	8	1	1	1598
29. Acute miliary tuberculosis			12	7									19
30. Tuberculous meningitis			46	36			1		1		1		85
31. Abdominal tuberculosis			46	43	1				2		1		93
32. Pott's disease				1									1
33. White swellings			2	1									3
34. Tuberculosis of other organs			10	6									16
35. Disseminated tuberculosis			8	5					2				15
36. Rickets			3	6									9
37. Syphilis			11	4					1	1		1	18
38. Gonococcus infection									1				1
39. Cancer and other malignant tumors of the buccal cavity			1	9									10
40. Cancer and other malignant tumors of the stomach, liver		1	10	6	1	1		1	3				23
41. Cancer and other malignant tumors of the peritonæum, intestines, rectum			3	3									6
42. Cancer and other malignant tumors of the female genital organs				17									17

NUMBER OF DEATHS BY NATIONALITY, SEX, AND AGE—Continued.

Causes of death.	Total.												
	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Grand total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
I. General diseases.—Continued.													
43. Cancer and other malignant tumors of the breast	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	2
44. Cancer and other malignant tumors of the skin	.....	.....	1	4	.....	.....	.....	.....	.....	.....	.....	.....	5
45. Cancer and other malignant tumors of other organs and of organs not specified	.....	.....	16	13	1	.....	.....	.....	.....	.....	.....	.....	30
46. Other tumors (tumors of the female genital organs excepted)	.....	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	2
47. Acute articular rheumatism	.....	.....	2	3	.....	.....	.....	.....	1	.....	.....	.....	6
48. Chronic rheumatism and gout	.....	.....	11	8	.....	.....	.....	.....	.....	.....	.....	.....	19
49. Scurvy	.....	.....	2	3	.....	.....	.....	.....	.....	.....	.....	.....	5
50. Diabetes	.....	.....	7	4	1	.....	.....	.....	1	.....	.....	.....	13
51. Exopthalmic goitre	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	2
53. Leuchæmia	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	3
54. Anæmia, chlorosis	.....	.....	9	7	.....	.....	.....	.....	.....	.....	.....	.....	16
55. Other general diseases	.....	.....	5	4	.....	.....	.....	.....	.....	.....	.....	.....	9
56. Alcoholism (acute or chronic)	.....	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	2
II. Diseases of the nervous system and of the organs of special sense.													
60. Encephalitis	.....	.....	6	5	.....	.....	.....	.....	.....	.....	.....	.....	11
61. Simple meningitis	1	.....	173	144	.....	.....	.....	.....	2	1	.....	.....	321
62. Locomotor ataxia	2	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	3
63. Other disease of the spinal cord	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
64. Cerebral hæmorrhage, apoplexy	.....	2	61	42	2	.....	2	.....	22	.....	1	.....	132
65. Softening of the brain	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	2
66. Paralysis without specified cause	.....	.....	16	13	.....	.....	.....	.....	.....	.....	.....	.....	29
67. General paralysis of the insane	1	.....	2	1	.....	.....	.....	.....	.....	.....	.....	.....	4
68. Other forms of mental alienation	.....	.....	1	6	.....	.....	.....	.....	.....	.....	.....	.....	7
69. Epilepsy	.....	.....	3	4	.....	.....	.....	.....	.....	.....	1	.....	8
70. Convulsions (nonpuerperal) (5 years and over)	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1
71. Convulsions of infants (under 5 years of age)	.....	1	57	41	.....	.....	.....	.....	3	3	.....	.....	105
76. Diseases of the ears	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
III. Diseases of the circulatory system.													
77. Pericarditis	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
78. Acute endocarditis	.....	1	18	16	1	.....	1	.....	3	.....	.....	.....	40
79. Organic diseases of the heart	8	.....	73	45	6	1	1	.....	44	.....	.....	.....	178

80. Angina pectories			12	7	1								20
81. Diseases of the arteries, atheroma, aneurysm, etc	1		7	10	1				9				28
82. Embolism and thrombosis			2	2									4
84. Diseases of the lymphatic system (lymphangitis, etc.)			1										1
85. Hæmorrhage; other diseases of the circulatory system			2	3									5
IV. Diseases of the respiratory system.													
87. Diseases of the larynx									1				1
88. Diseases of the thyreoid body	1												1
89. Acute bronchitis			354	315					5	3			677
90. Chronic bronchitis			119	128	1			1	11	2			262
91. Broncho-pneumonia	2	1	226	192	4		3		6				434
92. Pneumonia		1	81	56					5	2	1		146
93. Pleurisy	1		22	20					2				45
94. Pulmonary congestion, pulmonary apoplexy			4	5					1				10
95. Gangrene of the lungs			3		1								4
96. Asthma			12	16									28
98. Other diseases of the respiratory system (tuberculosis excepted)			1		1			1	1				4
V. Diseases of the digestive system.													
99. Other diseases of the mouth and annexa	1		1	3									5
102. Ulcer of the stomach			5	4					3	1			13
103. Other diseases of the stomach (cancer excepted)			15	4									19
104. Diarrhœa and enteritis (under 2 years)		3	206	195					8	8	1	1	422
105. Diarrhœa and enteritis (2 years and over)			88	83	1				9				181
107. Intestinal parasites			3	2					1				6
108. Appendicitis and typhlitis	1		11	5	1						1		19
109. Hernias, intestinal obstructions		1	19	4			1		3				28
110. Other diseases of the intestines			2	1									3
111. Acute yellow atrophy of the liver			2	2									4
112. Hydatid tumor of the liver			1										1
113. Cirrhosis of the liver			20	7					2				29
114. Biliary calculi			3										3
115. Other diseases of the liver			18	10			1		4				33
117. Simple peritonitis (nonpuerperal)	1		17	20					1			1	40
118. Other diseases of the digestive system (cancer and tuberculosis excepted)			1										1
VI. Nonvenereal diseases of the genito-urinary system and annexa.													
119. Acute nephritis		1	54	63					8				126
120. Bright's disease	1	2	92	103		2	1		28	2			231
122. Other diseases of the kidneys and annexa		1	1	4									6
123. Calculi of the urinary passages			4	1									5
124. Diseases of the bladder			5	1									6
126. Diseases of the prostate	1		5		1								7
128. Uterine hæmorrhage (nonpuerperal)				1									1
129. Uterine tumor (noncancerous)				2									2
130. Other diseases of the uterus				2									2
131. Cysts and other tumors of the ovary		1		1									2
132. Salpingitis and other diseases of the female genital organs				2									2

NUMBER OF DEATHS BY NATIONALITY, SEX, AND AGE—Continued.

Causes of death.	Total.												
	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Grand total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
VII. The puerperal state.													
134. Accidents of pregnancy		1		4									5
135. Puerperal hæmorrhage				15						1			16
136. Other accidents of labor				7						1			8
137. Puerperal septichæmia				25						1			26
138. Puerperal albuminuria and convulsions				12									12
VIII. Diseases of the skin and of the cellular tissue.													
142. Gangrene			10	9									19
143. Furuncle			1	1									2
144. Acute abscess	1			5									6
145. Other diseases of the skin and annexa			2	4						1			7
IX. Diseases of the bones and of the organs of locomotion.													
146. Diseases of the bones (tuberculosis excepted)			2	1									3
X. Malformations.													
150. Congenital malformations (stillbirths not included):													
(1) Hydrocephalus			2	1						1			4
(2) Congenital malformations of the heart			2	5									7
(3) Other congenital malformations			2	2						1			5
XI. Diseases of early infancy.													
151- (1) Premature birth (not stillborn)			16	16					3	1		2	36
151- (2) Congenital debility	1		343	288					7	6			647
152- Injuries at birth (not stillborn)			1	2									3
152- (3) Other causes peculiar to early infancy	1		21	15									37
153. Lack of care			1	1									2
XII. Old age.													
154 Senility			148	217	1				2				368

XIII. Affections caused by external causes.													
155. Suicide by poison			3	3					1				7
157. Suicide by hanging or strangulation			1	2									3
159. Suicide by firearms	1		1										2
160. Suicide by cutting or piercing instruments	1		1						1		1		4
165b. Other acute poisonings			1	2									3
166. Conflagration			11	2									13
167. Burns (conflagration excepted)			4	5									9
169. Accidental drowning	1		25	2	1		2		6				37
170. Traumatism by firearms			3										3
171. Traumatism by cutting or piercing instruments			1						1				2
172. Traumatism by fall	1		6	1									8
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)			12	2					2				16
177. Starvation			1										1
180. Lightning			3										3
181. Electricity (lightning excepted)			2										2
182. Homicide by firearms	4		4										8
183. Homicide by cutting or piercing instruments			8	4					1				13
184. Homicide by other means			1										1
185. Fractures (cause not specified)			17	2					1	1	1		22
186. Other external violence			15	3					1				19
XIV. Ill-defined diseases.													
189. Cause of death not specified or ill-defined	1		23	17		1					1		43
Total	45	22	4,431	3,744	36	7	17	5	326	52	17	9	[a]8,711
Grand total	67		8,175		43		22		378		26		[a]8,711

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[a] Including 34 permanent residence unknown of which 20 males and 3 females Filipinos; 1 American female; 1 Chinese male; 1 male, other European; 1 unknown nationality (male); and 7 unknown sex and nationality, ages, etc.

Causes of death.	Under 24 hours.	24 hours to under 36 hours.	36 hours to under 48 hours.	48 hours to under 14 days	14 days to under 1 year.	Total.
Abscess					2	2
Tuberculous					2	2
Right ear					1	1
Of the thymus, septichæmia				1		1
Adenitis, multiple					1	1
Anæmia, acute	1				1	2
Asphyxia	2					2
Neonatorum	6				1	7
Placenta prævia	1					1
Traumatic	1					1
Due to prolonged labor	1					1
Atelectasis		1				1
Of the lungs, bilateral	1					1
Athrepsia	1				28	29
Atrophy					1	1
And enteritis					1	1
General					1	1
Complicated with otitis media					1	1
Autointoxication				1		1
Beriberi infantile				44	510	554
Acute				1		1
And bronchitis					1	1
And ileocolitis					1	1
Blue disease				2		2
Bronchitis					2	2
Acute				2	379	281
Capillary					53	53
Chronic					81	81
And enteritis, acute					1	1
Broncho-pneumonia				6	132	138
Acute					1	1
Grippal					2	2
Complicating varicella					1	1
Calculi, biliary					1	1
Cardiac defect				1		1
Cholæmia				1		1
Cholecystitis					1	1
Cholera infantum					3	3
Colitis, ulcerative					1	1
Congenital debility	140	51	7	232	80	510
Congenital deformity	1					1
Congenital hernia					1	1
Congestion, pulmonary		2		3		5
Consumption					2	2
Convulsions of infants	1	1	2	18	69	91
And bronchitis, chronic					1	1
Diarrhœa and enteritis				1	15	16
Chronic					1	1
Diathesis, exudative					1	1
Dysentery					1	1
Acute					16	16
Amœbic					1	1
Bacillary				1	3	4
And broncho-pneumonia					1	1
Chronic					2	2
Difficult birth forceps delivery	1					1
Dyspepsia					5	5
Acute					1	1
Chronic					2	2
And meningitis				1		1
Eczema, generalized					3	3
Empyemia of lungs and septichæmia					1	1
Left; septichæmia, secondary					2	2
Enteritis:						
Acute					46	46
Chronic					22	22
Enterocolitis, chronic					3	3
Enterocolitis, severe					1	1
Erysipelas				1	8	9
Erysipelas inguinal					1	1
Erysipelas malignant					1	1
Furunculosis					1	1
Gastric indigestion					1	1
Gastritis, chronic					1	1
Gastroenteritis					1	1
Acute				1	70	71
Chronic					27	27
Gastrointestinal intoxication					2	2
Gastritis					1	1

INFANT MORTALITY—Continued.

Causes of death.	Under 24 hours.	24 hours to under 36 hours.	36 hours to under 48 hours.	48 hours to under 14 days.	14 days to under 1 year.	Total.
Hæmorrhage:						
Brain		1				1
Following asphyxia	1					1
Gastric				1	1	2
Meningeal			1			1
Neonatorum					1	1
Of newborn				1		1
Pulmonary				4		4
Umbilical				6	7	13
Heart, dilatation					1	1
Hepatitis, acute					1	1
Hydrocephalus	1				1	2
Hæmatoma and œdema of skill	1				1	2
Icterus	1			9	4	14
Catarrhal					2	2
Of newborn				1		1
Ileocolitis:						
Acute					6	6
Hæmorrhagic					2	2
Severe					1	1
Imperforated anus		1				1
Imperforated rectum					1	1
Inanition				1	3	4
Infantile eclampsia					2	2
Influenza, pneumonia					3	3
Lack of care					2	2
Malaria					2	2
Malnutrition					33	33
Marasmus	3			2	78	83
And broncho-pneumonia					1	1
Meninigitis, cerebral acute				1	125	126
Cerebrospinal					4	4
Chronic					1	1
Fibrino-suppurative					1	1
Tuberculous					17	17
Miscarriage (6 months)	1					1
Misery					1	1
Nephritis					7	7
Acute					16	16
Chronic					2	2
Parenchymatous					3	3
With broncho-pneumonia					1	1
Obstruction, intestinal					2	2
And pulmonary hæmorrhage				1		1
Occlusion, intestinal					1	1
Oedema of scalp, left temporal region		1				1
Omphalorrhagia					2	2
Omphalitis, acute				1		1
Otitis and gastroenteritis					1	1
Perforation of cranium	1					1
Peritonitis, acute				1	1	2
Persistance of foramen of Botallo				2	1	3
Pleurisy, purulent					5	5
Pneumonia					2	2
Acute					4	4
Hypostatic					1	1
Lobar					4	4
Premature birth	12	9		8	2	31
And malnutrition					1	1
Pulmonary congestion					1	1
Purpura hæmorrhagica				2	1	3
Pyæmia, septic					1	1
Rickets					3	3
Septichæmia					10	10
Due to eczema, genaralized				2		2
General; secondary to scabies					2	2
Scurvy					1	1
Smallpox					1	1
Syphilis, congenital				1	3	4
Tetanus, umbilical				66	3	69
Toxæmia				1		1
Acute				1		1
From mother	1					1
Due to scabies, following eclampsia					1	1
Tuberculosis					3	3
Acute miliary					1	1
Cerebrospinal					1	1
Generalized					1	1
Pulmonalis					1	1

INFANT MORTALITY—Continued.

Causes of death.	Under 24 hours.	24 hours to under 36 hours.	36 hours to under 48 hours.	48 hours to under 14 days.	14 days to under 1 year.	Total.
Typhoid fever					1	1
Uræmia, secondary to nephritis, chronic					1	1
And gastroenteritis chronic					1	1
Wooping cough					3	3
Total	179	67	10	429	2,002	2,687

COMPARATIVE MORTALITY FROM JANUARY, 1910 TO DECEMBER 1920, INCLUSIVE.

Months.	1910		1911		1912		1913	
	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.
January	729	[d] 36.64	653	[d] 32.82	698	[d] 35.08	502	[d] 25.23
February	638	[d] 35.50	536	[d] 29.82	611	[d] 32.82	445	[d] 24.76
March	642	[d] 32.26	574	[d] 28.85	732	[d] 36.79	451	[d] 22.66
April	594	[d] 30.85	547	[d] 28.41	671	[d] 34.85	442	[d] 22.95
May	604	[d] 30.35	609	[d] 30.60	701	[d] 35.23	504	[d] 25.33
June	646	[d] 33.55	693	[d] 35.99	605	[d] 31.42	442	[d] 22.95
July	799	[d] 40.15	830	[d] 41.71	689	[d] 34.63	410	[e] 19.49
August	731	[d] 36.74	878	[d] 44.13	705	[d] 35.43	439	[e] 20.87
September	664	[d] 34.48	741	[d] 38.48	661	[d] 34.33	529	[e] 25.99
October	705	[d] 35.43	686	[d] 34.48	633	[d] 31.81	550	[e] 26.15
November	642	[d] 33.34	782	[d] 40.61	573	[d] 29.76	590	[e] 28.99
December	635	[d] 31.91	698	[d] 35.08	540	[d] 27.14	600	[e] 28.53
Total	8,029	[d] 34.25	8,227	[d] 35.09	7,819	[d] 33.35	5,904	[e] 24.48

Months.	1914		1915		1916		1917	
	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.
January	570	[f] 25.15	678	[f] 29.92	634	[f] 27.98	485	[f] 21.40
February	499	[f] 24.38	545	[f] 26.63	559	[f] 26.37	469	[f] 22.91
March	462	[f] 20.39	570	[f] 25.15	593	[f] 26.17	539	[f] 23.78
April	464	[f] 21.16	551	[f] 25.13	567	[f] 25.85	500	[f] 22.80
May	430	[f] 18.97	557	[f] 24.58	548	[f] 24.18	545	[f] 24.05
June	387	[f] 17.65	557	[f] 25.40	513	[f] 23.39	500	[f] 22.80
July	540	[f] 23.83	605	[f] 26.70	573	[f] 25.29	555	[f] 24.49
August	581	[f] 25.64	602	[f] 26.57	717	[f] 31.64	615	[f] 29.14
September	693	[f] 31.60	542	[f] 24.71	827	[f] 37.71	548	[f] 24.99
October	624	[f] 27.54	553	[f] 24.40	551	[f] 24.31	598	[f] 26.39
November	651	[f] 29.69	482	[f] 21.98	494	[f] 22.53	639	[f] 29.14
December	686	[f] 30.27	578	[f] 25.51	589	[f] 25.99	689	[f] 30.41
Total	6,587	[f] 24.67	6,820	[f] 25.54	7,165	[f] 26.84	6,682	[f] 25.03

[d] Death rate computed on population of 234,409 (Health Census, 1910).

[e] Death rate computed on estimated population of 247,756.

[f] Death rate computed on poulation of 266,943 (Health Census, 1914).

COMPARATIVE MORTALITY FROM JANUARY, 1920 TO DECEMBER, 1920, INCLUSIVE—Continued.

Months.	1918		1919		1920	
	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.
January	713	[f] 31.46	661	[f] 29.17	594	[g] 24.67
February	685	[f] 33.47	589	[f] 28.78	477	[g] 21.18
March	878	[f] 38.75	623	[f] 27.49	547	[g] 22.72
April	954	[f] 43.51	496	[g] 21.29	583	[g] 25.02
May	1,135	[f] 50.09	460	[g] 19.10	587	[g] 24.38
June	1,242	[f] 56.64	528	[g] 22.66	612	[g] 26.27
July	1,083	[f] 47.80	876	[g] 36.39	720	[g] 29.91
August	957	[f] 42.23	1,004	[g] 41.70	665	[g] 27.62
September	917	[f] 41.82	736	[g] 31.59	640	[g] 27.47
October	1,121	[f] 49.47	656	[g] 27.25	689	[h] 28.02
November	1,867	[f] 85.15	601	[g] 25.79	734	[h] 30.85
December	817	[f] 36.05	584	[g] 24.26	819	[h] 33.31
Total	12,369	[f] 46.33	7,814	[g] 27.55	7,667	[h] 26.47

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[f] Death rate computed on population of 266,943 (Health Census, 1914).
[g] Death rate computed on population of 283,613 (General Census, 1918).
[h] Death rate computed on estimated population of 289,643.

MORTALITY COMPARED WITH SAME PERIOD OF PREVIOUS YEARS.

Years.	First quarter.		Second quarter.		Third quarter.		Fourth quarter.		Total.	
	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.
1910	2,009	34.78	1,844	31.57	2,194	37.15	1,982	33.56	8,029	34.25
1911	1,763	30.52	1,849	31.65	2,449	41.47	2,166	36.68	8.227	35.09
1912	2,041	34.94	1,977	33.85	2,055	34.80	1,746	29.57	7,819	33.35
1913	1,398	24.20	1,388	23.76	1,378	22.08	1,740	27.88	5,904	24.48
1914	1,531	23.27	1,281	19.26	1,814	26.97	1,961	29.16	6,587	24.67
1915	1,793	27.25	1,665	25.03	1,749	26.01	1,613	23.98	6,820	25.54
1916	1,786	26.85	1,628	24.47	2,117	31.48	1,634	24.30	7,165	26.84
1917	1,493	22.69	1,545	23.23	1,718	25.55	1,926	28.64	6,682	25.03
1918	2,276	34.60	3,331	50.08	2,957	43.97	3,805	56.58	12,369	46.33
1919	1,873	28.47	1,484	21.00	2,616	36.61	1,841	25.77	7,814	27.55
1920	1,618	22.89	1,782	25.21	2,025	28.34	2,242	30.73	7,667	26.47

CHOLERA AND PLAGUE, CITY OF MANILA.

Nationality.	Cholera.				Plague.			
	Cases.		Deaths.		Cases.		Deaths.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Americans	.....	.....	.....	.....	.....	.....	.....	.....
Filipinos	13	8	1	1	.....	.....	.....	.....
Spaniards	.....	.....	.....	.....	.....	.....	.....	.....
Other Europeans	.....	.....	.....	.....	.....	.....	.....	.....
Chinese	1	.....	1	.....	.....	.....	.....	.....
All others	.....	.....	.....	.....	.....	.....	.....	.....
Total	14	8	2	1	.....	.....	.....	.....

CHOLERA AND PLAGUE, CITY OF MANILA—Continued.

District and age.	Cholera.		Plague.	
	C.	D.	C.	D.
Health districts:				
No. 1, Intramuros	5			
No. 2, Meisic	6	1		
No. 4, Sampaloc	4	1		
No. 5, Tondo	6	1		
No. 6, Paco	1			
Total	22	3		
Ages:				
Under 1 year				
1 year to 9 years				
10 years ro 19 years	4	1		
20 years to 29 years	9			
30 years to 39 years	4	2		
40 years to 49 years				
50 years and over	5			
Unknown				
Total	22	3		

Number of cases found alive, Cholera, 21; Plague, 0.
Number of cases found dead, Cholera, 1; Plague, 0.

SMALLPOX, CITY OF MANILA.

A total of 5 cases and 4 deaths of smallpox occurred during the period covered by this report.

VARIOLOID, CITY OF MANILA.

No cases and no deaths of varioloid occurred during the period covered by this report.

VARICELLA, CITY OF MANILA.

A total of 317 cases of varicella occurred during the period covered by this report.

TUBERCULOSIS CASES REPORTED IN THE CITY OF MANILA DURING THE FISCAL YEAR 1920.

[Closed February 3d, 1921.]

Nationality.	Health districts.										Total.
	No. 1.		No. 3.		No. 4.		No. 5.		No. 6.		
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
Americans											
Filipinos	31	11	129	108	30	24	144	127	27	23	654
Spaniards	1										1
Other Europeans											
Chinese			19	2							21
All others											
Total	32	11	148	110	30	24	144	127	27	23	676

Also reported 61 males and 34 females, provincial cases.

RATS CAMPAIGN OPERATIONS.

Number of spring traps set	348,247
Number of rats caught with spring traps	67,603
Number and kind of baits set (coconuts)	348,969
Number of poison portions placed	385,212
Number of rats found poisoned	4,850
Number of rats killed by clubs and other weapons	18,073
Number of rats found dead from other causes	4,697
Total number of rats otherwise caught, found dead or killed	95,223
Total number of rats sent to laboratory for examination	95,223
Number of rats found negative for plague	95,223

REPORT OF SICK AND WOUNDED POOR ATTENDED BY MUNICIPAL PHYSICIANS.

Health districts and physicians.	Nationality.																	Recoveries.		Deaths.		Number of visits.
	Americans.				Foreigners.				Filipinos.				Chinese.				Total.					
	Adults.		Children.		Adults.		Children.		Adults.		Children.		Adults.		Children.							
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.		Male.	Female.	Male.	Female.	
No. 1, Intramuros: Dr. V. Cavanna	....	....	....	....	5	....	....	....	771	875	260	263	....	....	....	....	2,174	263	304	4	1	5,091
No. 2, Meisic: Dr. C. Reyes and Tee Han Kee	....	....	....	....	....	....	....	....	334	397	302	265	372	2	49	2	1,723	755	396	....	....	8,292
No. 4, Sampaloc: Dr. F. Castañeda	....	....	....	....	....	....	....	....	731	1,309	960	914	....	....	....	....	3,914	128	195	2	1	4,350
No. 5, Tondo: Drs. P. Gabriel and V. Pantoja	1	....	....	....	8	....	....	....	694	749	751	606	17	1	1	....	2,828	489	283	....	....	6,618
No. 6, Paco: Dr. J. B. Cabarrús	....	....	....	....	....	....	....	....	281	246	239	157	....	....	....	....	923	287	194	....	1	2,063
Total	1	....	....	....	13	....	....	....	2,811	3,576	2,512	2,205	389	3	50	2	11,562	1,922	1,372	6	2	26,414

CITY MORGUE REPORT.

Disposition.	Number of bodies.	Disposition.	Number of bodies.
Remaining from last year	65	Transferred to—	
Received during the year	1,118	Army Morgue	6
		Government Museum	3
Total	1,183	Philippine Dental College	2
		Provinces	162
Buried by—		Santo Tomas University	9
City	462	Remaining at end of the year	65
Family	474		

DISPOSITION OF DEAD BODIES.

DISINTERMENTS.

Disposition.	Number.	Disposition.	Number.
Buried:		Otherwise disposed of—Cont.	
Chinese cemetry	403	Transferred to Santo Tomas University	13
Loma (Binondo) cemetry	1,967	Remaining in:	
Norte cemetery	6,014	Army Morgue	2
Otherwise disposed of:		City Morgue	65
Cremated	40	Philippine Dental College	2
Shipped to the United States	31	Santo Tomas University	21
Transferred to Government Museum (stillbirths)	3		
Transferred to provinces	964	Total	[a] 9,525

~~Disposition.~~ Cemetery	Number of bodies.	~~Disposition.~~	Number of bodies.
Balicbalic	14	Pandacan (Roman Catholic)	1
Chinese	86	Santa Ana	4
Loma (Binondo)	143	Santa Cruz	21
Malate	5	Tondo	6
Norte	23		
Paco	4	Total	307

[a] Of this total, 4 from Army Morgue, 59 from City Morgue, 3 from private morgues, 2 from Philippine Dental College, and 32 from Santo Tomas University, remaining from last year; 252 dead bodies brought from the provinces and 462 were stillbirths.

CHOLERA IN THE PROVINCES.

Provinces and towns.	By towns.		By province.		Mortality.
	Cases.	Death.	Cases.	Death.	
Albay:					*Per cent.*
Albay	6	5			
Bacacay	9	5			
Camalig	2	2			
Daraga	1	1			
Guinobatan	3	2			
Jovellar	2	1			
Libon	4	2			
Ligao	2	1			
Polangui	1	1			
Oas	10	8			
Tabaco	22	18			
Virac	2		64	46	71.87
Ambos Camarines:					
Baao	1				
Buhi	5	2			
Calabanga	75	53			
Canaman	4	4			
Daet	1				
Goa	9	4			
Iriga	9	6			
Libmanan	8	7			
Magarao	47	41			
Naga	14	8			
Pamplona	2	1			
Pili	77	56			
Sagnay	2				
San José	14	4			
Tigaon	23	10	291	196	67.35
Antique:					
Barbaza	18	8			
Bugason	4	2			
Culasi	2				
Dao	1	1			
Lauaan	5	3			
Patnongon	36	22			
San José	15	17			
San Remigio	11	5			
Sibalom	64	36			
Tibiao	2	2	158	96	60.75
Batangas:					
Batangas	18	11			
Santo Tomás	1		19	11	57.89
Bohol:					
Bilar	1	1	1	1	100.00
Cagayan:					
Abulug	8	4			
Amulung	11	3			
Aparri	107	95			
Ballesteros	5	3			
Buguey	4	2			
Buguri	1	1			
Camalaniugan	28	23			
Gatarran	8	3			
Iguig	5	4			
Lalo	14	12			
Rizal	3	3			
Solana	4	2			
Tuguegarao	20	13	218	168	77.06
Cavite:					
Amadeo	1	1	1	1	100.00
Iloilo:					
Iloilo	3		3		
Ilocos Norte:					
Unknown		1		1	
Isabela:					
Angadanan	4	3			
Cabagan	1	1			
Cauayan	1	1			
Echague	60	53			
Gamau	6	3			
Santiago	7	5	79	66	83.54
Laguna:					
Alaminos	9		9		
Mindoro:					
Calapan	24	11			
Pola	1	1	25	12	48.00

CHOLERA IN THE PROVINCES—Continued.

Provinces and towns.	By towns.		By province.		Mortality.
	Cases.	Death.	Cases.	Death.	
Misamis:					*Per cent.*
Catarman	3	2	3	2	66.66
Nueva Vizcaya:					
Bayombong	8	6	8	6	75.00
Occidental Negros:					
Cadiz	6	5			
Manapla	1				
Pulupandan	8	7			
Valladolid	7	7	22	19	86.36
Oriental Negros:					
Luzuriaga	1	1	1	1	100.00
Palawan:					
Cuyo	21	13			
Panaran	38	24	59	37	62.71
Pangasinan:					
Calasiao	7	5	7	5	71.42
Rizal:					
Pasay	2				
San Juan del Monte	2		4		
Samar:					
Diri Island	22	7			
Villareal	17	11			
Zumarraga	27	19	66	37	56.06
Sorsogon:					
Casiguran	11	11			
Irosin	1	1			
Juban	14	10	26	22	84.61
Tayabas:					
Boac	24	17			
Infanta	3	3			
Mogpog	1	5	28	25	89.28
Union:					
Naguilian	2	2			
San Fernando	1	1			
Santo Tomás	1	1	4	4	100.00
Total	1,096	756	1,096	756	68.97

SUMMARY, BY PROVINCES.

Provinces.	Cases.	Deaths.	Mortality.
Albay	64	46	71.87
Ambos Camarines	291	196	67.35
Antique	158	96	60.75
Batangas	19	11	57.89
Bohol	1	1	100.00
Cagayan	218	168	77.06
Cavite	1	1	100.00
Iloilo	3		
Ilocos Norte		1	
Isabela	79	66	83.54
Laguna	9		
Mindoro	25	12	48.00
Misamis	3	2	66.66
Nueva Vizcaya	8	6	75.00
Occidental Negros	22	19	86.36
Oriental Negros	1	1	100.00
Palawan	59	37	62.71
Pangasinan	7	5	71.42
Rizal	4		
Samar	66	37	56.06
Sorsogon	26	22	84.61
Tayabas	28	25	89.28
Union	4	4	100.00
Total	1,096	756	68.97

REPORTS RECEIVED OF BLIND PERSONS LIVING IN THE VARIOUS PROVINCES OF THE PHILIPPINE ISLANDS.

Provinces.	Race.	Children.		Single.		Married.		Widowed.		Total.		Grand total.
		Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
Abra	Filipino	....	....	11	5	15	11	2	10	28	26	54
Agusan	do	....	....	5	3	3	1	....	2	8	6	14
Albay	do	7	5	55	46	32	7	5	13	99	71	170
Ambos Camarines	do	9	5	43	33	42	4	11	15	105	57	162
Antique	do	2	....	10	11	9	5	5	7	26	23	49
Bataan	do	3	....	3	9	4	5	....	....	10	14	24
Batanes	do	1	2	2	1	3	2	3	4	9	9	18
Batangas	do	1	1	27	20	24	12	10	14	62	47	109
Bohol	do	9	4	106	73	51	23	10	10	176	110	286
Bulacan	do	2	2	34	25	16	2	13	15	65	44	109
Cagayan	do	4	....	20	11	24	7	4	13	52	31	83
Capiz	do	2	2	35	28	37	20	16	39	90	89	179
Catanduanes	do	....	....	10	9	12	6	3	2	25	17	42
Cavite	do	9	2	21	18	13	10	7	16	50	46	96
Cebu	do	12	2	38	36	42	18	5	18	97	74	171
Cotabato	do	1	....	2	3	10	2	1	4	14	9	23
Davao	do	1	1	5	2	3	1	1	3	10	7	17
Ilocos Norte	do	1	2	15	22	28	19	13	20	57	63	120
Ilocos Sur	do	9	8	37	28	21	18	12	30	79	84	163
Iloilo	do	7	2	39	37	38	14	18	31	102	84	186
Isabela	do	....	....	....	....	....	1	....	....	....	1	1
Laguna	do	6	2	25	16	22	8	4	17	57	43	100
Lanao	do	....	....	....	....	....	....	....	2	....	2	2
Leyte	do	22	8	95	47	58	18	19	21	194	94	288
Marinduque	do	....	....	2	3	8	2	1	2	11	7	18
Masbate	do	1	3	4	4	5	2	....	3	10	12	22
Mindoro	do	2	1	1	1	2	....	....	2	5	4	9
Misamis	do	7	6	40	14	29	14	11	8	87	42	129
Nueva Ecija	do	....	2	13	9	8	6	8	5	29	22	51
Nueva Vizcaya	do	....	....	....	....	1	....	....	....	1	....	1
Occidental Negros	do	13	3	48	39	33	18	20	18	114	78	192
Oriental Negros	do	3	2	37	23	20	7	12	10	72	42	114
Palawan	do	1	3	7	3	2	3	7	4	17	13	30
Pampanga	do	10	5	49	30	37	12	17	17	113	64	177
Pangasinan	do	17	15	61	32	49	29	16	22	143	98	241
Rizal	do	4	6	22	19	28	16	15	22	69	63	132
Romblon	do	4	1	12	16	18	2	6	2	40	21	61
Samar	do	8	5	96	57	40	14	14	13	158	89	247
Sorsogon	do	7	1	12	10	6	3	....	1	25	15	40
Sulu[a]	do	....	....	....	....	....	....	....	....	....	....	....
Surigao	do	7	8	10	6	4	....	3	2	24	16	40
Tarlac	do	6	4	14	17	22	7	8	15	50	43	93
Tayabas	do	7	2	25	20	22	8	5	6	59	36	95
Union	do	2	2	18	10	12	3	9	12	41	27	68
Zambales	do	2	2	10	5	7	4	6	11	25	22	47
Zamboanga	do	....	....	2	1	....	....	....	....	2	1	3
Total		209	119	1,121	802	860	364	320	481	2,510	1,766	4,276

[a] No record.

REPORTS RECEIVED OF INSANE PERSONS LIVING IN THE VARIOUS PROVINCES OF THE PHILIPPINE ISLANDS.

Provinces.	Race.	Children.		Single.		Married.		Widowed.		Total.		Grand total.
		Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
Abra	Filipino	3	1	19	13	12	8	1	9	35	31	66
Agusan	do.	....	....	3	1	....	....	....	....	3	1	4
Albay	do.	....	1	21	20	5	10	1	7	27	38	65
Ambos Camarines	do.	1	1	29	25	12	4	3	8	45	38	83
Antique	do.	....	....	14	4	5	8	1	....	20	12	32
Bataan	do.	....	....	11	5	2	....	4	4	17	9	26
Batanes	do.	2	2	2	4	5	1	2	2	11	9	20
Batangas	do.	1	1	47	21	15	9	5	4	68	35	103
Bohol	do.	1	7	215	135	34	28	8	6	258	176	434
Bulacan	do.	....	....	32	16	8	11	3	5	43	32	75
Cagayan	do.	1	....	17	6	4	8	2	....	24	14	38
Capiz	do.	....	....	27	22	14	22	4	15	45	59	104
Catanduanes	do.	....	....	24	13	7	3	....	....	31	16	47
Cavite	do.	....	....	19	11	8	8	2	9	29	28	57
Cebu	do.	1	....	103	50	12	12	3	4	119	66	185
Cotabato	do.	....	....	1	....	....	1	....	1	1	2	3
Davao	do.	....	....	6	....	4	1	....	3	10	4	14
Ilocos Norte	do.	....	2	45	26	20	9	1	3	66	40	106
Ilocos Sur	do.	....	....	62	24	23	8	7	8	92	40	132
Iloilo	do.	1	....	50	39	24	20	6	17	81	76	157
Isabela	do.	....	....	....	....	....	1	....	....	....	1	1
Laguna	do.	1	....	22	10	5	7	3	5	31	22	53
Leyte	do.	3	....	94	45	20	12	7	6	124	63	187
Marinduque	do.	....	....	5	....	4	2	....	1	9	3	12
Masbate	do.	....	....	6	2	1	2	2	....	9	4	13
Mindoro	do.	....	....	....	1	....	1	2	....	2	2	4
Misamis	do.	3	....	61	29	15	5	8	7	87	41	128
Nueva Ecija	do.	....	....	11	7	3	2	2	1	16	10	26
Nueva Vizcaya	do.	....	....	4	2	....	....	....	....	4	2	6
Occidental Negros	do.	....	....	41	20	15	15	4	11	60	46	106
Oriental Negros	do.	....	....	68	31	9	7	6	2	83	40	123
Palawan	do.	1	2	14	8	1	3	1	1	17	14	31
Pampanga	do.	1	....	14	12	9	8	3	6	27	26	53
Pangasinan	do.	3	3	61	25	50	29	13	23	127	80	207
Rizal	do.	1	....	24	13	9	10	3	5	37	28	65
Romblon	do.	2	....	8	9	6	4	1	1	17	14	31
Samar	do.	7	4	66	33	21	15	3	13	97	65	162
San Lazaro Hospital	(b)	4	1	139	49	136	56	9	22	288	128	416
Sorsogon	Filipino	2	....	9	3	1	....	....	....	12	3	15
Sulu	(b)	....	....	....	....	....	....	....	....	....	....	....
Surigao	Filipino	1	....	3	2	3	2	....	1	7	5	12
Tarlac	do.	1	....	7	3	5	2	....	2	13	7	20
Tayabas	do.	1	3	81	53	16	20	2	5	100	81	181
Union	do.	....	1	24	16	16	9	6	4	46	30	76
Zambales	do.	....	....	14	13	2	5	....	1	16	19	35
Zamboanga	do.	....	....	2	1	2	1	....	....	4	2	6
Total		42	29	1,525	822	563	389	128	222	2,258	1,462	3,720

[b] Americans, 10; Europeans, 16; Filipinos, 285; Chinese, 1; and all others, 4.

REPORT OF SERA.

	Remaining at the beginning of year.	Received during the year.	Total to be accounted.	Issued.	Remaining at end of the year.
Anticholeric vaccine (ampoules)	....	13,060	....	13,010	50
Antidiphtheritic serum (units)	71,000	1,600,000	1,671,000	1,180,000	491,000
Antidysenteric serum (ampoules)	180	86	266	256	10
Antirabic vaccine (ampoules)	....	2	2	2	....
Antitetanic serum (units)	....	4,109,500	4,109,500	4,109,500	....
Antityphoid vaccine (ampoules)	....	10,403	10,403	10,303	100
Dried vaccine virus (units)	....	86,100	86,100	86,100	....
Gonococcus vaccine (ampoules)	....	76	76	76	....
Normal horses serum (ampoules)	....	60	60	60	....
Streptococcus vaccine (ampoules)	....	52	52	52	....
Streptococcus and staphilococcus aureus and albus vaccine (ampoules)	....	12	12	12	....
Typhoid and paratyphoid vaccine (ampoules)	....	6,524	6,524	2,274	4,250

AMOUNT OF ANTICHOLERIC VACCINE DISTRIBUTED BY THE PHILIPPINE HEALTH SERVICE.

	Units.		Units.
Amount on hand, July 1, 1920	1,000	Distributed as per itemized statement	204,200
Received from the Bureau of Science	211,020	Remaining December 31, 1920	7,820
Total to be accounted for	212,020		

PLACES AT WHICH ANTICHOLERIC VACCINE WAS DISTRIBUTED.

	Units.
Provinces:	
Abra	1,200
Albay	18,420
Ambos Camarines	1,905
Antique	4,830
Bataan	510
Batangas	1,020
Batanes	600
Bohol	2,100
Bulacan	18,420
Cagayan	36,150
Capiz	1,905
Cavite	450
Cebu	1,800
Ilocos Norte	3,510
Ilocos Sur	2,160
Iloilo	6,990
Isabela	12,795
Laguna	1,320
Leyte	1,005
Marinduque	1,710
Masbate	1,320
Mindoro	1,800
Misamis	2,460
Mountain Province	5,520
Provinces—Continued.	
Nueva Ecija	7,200
Occidental Negros	60
Oriental Negros	5,085
Pampanga	3,720
Pangasinan	16,785
Rizal	4,560
Romblon	510
Samar	300
Sorsogon	1,500
Tarlac	900
Tayabas	4,770
Union	12,390
Zambales	900
Zamboanga	600
Total	189,180
Manila:	
Health districts	13,920
Other institution	1,100
Total	15,020
Grand total	204,200

PLACES AT WHICH VACCINE VIRUS WAS DISTRIBUTED.

	Units.
Provinces:	
Abra	55,000
Agusan	26,000
Albay	259,000
Ambos Camarines	200,900
Antique	17,500
Baguio Hospital	2,700
Bataan	14,500
Batanes	6,000
Batangas	96,000
Benguet	3,000
Bohol	126,000
Bukidnon	48,000
Bulacan	38,700
Cagayan	107,000
Capiz	145,000
Cavite	51,000
Cebu	424,500
Culion Leper Colony	6,000
Ilocos Norte	153,000
Ilocos Sur	65,500
Iloilo	213,000
Isabela	23,000
Laguna	16,800
Lanao	4,000
Leyte	192,000
Marinduque	21,000
Masbate	42,500
Mindoro	25,600
Misamis	178,500
Provinces—Continued.	
Mountain Province	116,700
Nueva Ecija	127,000
Nueva Vizcaya	51,800
Occidental Negros	115,500
Oriental Negros	44,000
Palawan	1,000
Pampanga	66,000
Pangasinan	170,500
Rizal	118,450
Romblon	77,400
Samar	139,000
Sorsogon	143,500
Surigao	127,500
Tarlac	50,200
Tayabas	76,200
Union	245,500
Zambales	42,000
Zamboanga	121,800
Total	4,395,750
Manila:	
Health districts	309,700
Other institution	30,250
Total	339,950
Grand total	4,735,700

AMOUNT OF VACCINE VIRUS DISTRIBUTED BY THE PHILIPPINE HEALTH SERVICE.

	Units.		Units.
Amount on hand, January 1, 1920	59,100	Distributed as per itemized statement	4,735,700
Received from Bureau of Science	4,698,000	Remaining on hand, December 31, 1920	21,400
Total to be accounted for	4,757,100		

VACCINATIONS, CALENDAR YEAR 1920.

[Closed February 19, 1921.]

	Vaccinations.	Inspections.	Positive.	Negative.
City of Manila:				
Health District No. 1, Intramuros	51,396	11,882	9,391	2,491
Health District No. 2, Meisic	89,627	17,615	9,408	8,207
Health District No. 4, Sampaloc	52,670	20,710	13,095	7,615
Health District No. 5, Tondo	30,720	3,503	2,383	1,120
Health District No. 6, Paco	33,538	29,297	10,055	19,242
Total	257,951	83,007	44,332	38,675
Provinces:				
Abra	61,154	33,361	18,496	14,865
Albay	152,760	106,787	78,453	28,334
Ambos Camarines	156,063	88,250	64,592	23,658
Antique	13,115	11,986	7,778	4,208
Bataan	12,388	12,014	8,076	3,938
Batanes	2,279	1,143	892	251
Batangas	48,190	17,338	12,073	5,265
Bohol	109,553	83,010	53,786	29,224
Bulacan	35,806	18,955	14,858	4,097
Cagayan	75,526	46,346	32,456	13,890
Capiz	126,703	111,490	79,973	31,517
Catanduanes	91,089	53,629	36,678	16,951
Cavite	47,178	42,190	27,937	14,253
Cebu	313,362	234,968	131,333	103,635
Culion Leper Colony	850	713	275	438
Ilocos Norte	151,718	136,964	29,649	107,315
Ilocos Sur	58,237	42,374	24,811	17,563
Iloilo	201,882	89,858	70,714	19,144
Isabela	17,823	15,440	11,858	3,582
Laguna	17,988	15,334	9,739	5,595
Leyte	143,947	85,109	62,834	22,275
Marinduque	18,890	13,107	9,419	3,688
Masbate	80,351	54,817	37,642	17,175
Mindoro	13,647	9,139	5,561	3,578
Misamis	43,365	26,101	17,247	8,854
Mountain	69,527	39,998	30,728	9,270
Nueva Ecija	86,458	66,893	40,838	26,055
Nueva Vizcaya	13,301	10,726	7,570	3,156
Occidental Negros	56,856	50,789	35,506	15,283
Oriental Negros	48,420	38,298	27,250	11,048
Palawan	4,597	4,022	2,563	1,459
Pampanga	60,789	34,677	23,419	11,258
Pangasinan	117,066	141,129	87,896	53,233
Rizal	119,424	75,823	47,939	27,884
Romblon	56,646	43,137	32,887	10,250
Samar	92,667	57,581	39,341	18,240
Sorsogon	108,875	62,596	37,251	25,345
Tarlac	46,156	31,410	20,287	11,123
Tayabas	70,867	62,753	44,822	17,931
Union	233,605	142,986	85,923	57,063
Zambales	26,680	22,613	13,262	9,351
Total	3,265,798	2,235,854	1,424,612	811,242
Grand total	3,523,749	2,318,861	1,468,944	849,917

MORTALITY AMONG GOVERNMENT EMPLOYEES.

~~Health districts and~~ provinces.	Americans.	Filipinos.
Average number of employees	577	11,650
Deaths reported:		
From illness	6	60
From violence	1	11
Total	7	71
Deaths from illness:		
Average years of service	10.62	6.83
Average age at death	31.00	31.18
Annual death rate per thousand	10.40	5.15
Deaths from violence:		
Average years of service	10.86	5.32
Average age at death	44.00	32.74
Annual death rate per thousand	1.73	0.94
Total deaths:		
Average years of service	10.51	6.64
Average age at death	40.00	33.01
Annual death rate per thousand	12.13	6.09

Both nationalities:	
Population	12,227
Number of deaths	78
Average years of service	6.37
Average age at death	33.96
Annual death rate per thousand	6.37

ALBAY HOSPITAL.

Movement of patients:	
Patients remaining from last year	11
Patients admitted during the year	582
Patients discharged during the year	533
Patients died during the year	51
Patients remaining December 31st, 1920	9
Patients admitted, by nationalities:	
Filipinos	530
Americans	15
Spaniards	10
Chinese	22
Others	5
Total	582
By sexes:	
Male patients admitted	382
Female patients admitted	200
Total	582
By ages:	
Below 10 years	99
10 to 20 years	99
20 to 30 years	192
30 to 40 years	94
40 to 50 years	52
50 to 70 years	46
Total	582
By sex:	
Males	72
Females	6
Total	78

BAGUIO HOSPITAL.

HOSPITAL CASES.

Diseases.	Remaining at last report.	Admitted.	Died.	Discharged.	Escaped.	Remaining.
1. Typhoid fever	2	22	3	21	....	....
4. Malaria	....	21	....	20	1	....
5. Smallpox	....	3	....	2	1	....
6. Measles	....	10	....	10	....	....
8. Whooping cough	....	1	....	1	....	....
10. Influenza	1	80	....	78	2	1
14. Dysentery	1	52	6	45	1	1
17. Leprosy	....	1	1	....	....	....
19. Other epidemic diseases	....	12	....	11	1	....
20. Purulent infection and septicæmia	2	29	....	31	....	....
23. Rabies	....	1	....	1	....	....
27. Beriberi	....	6	1	5	....	....
28. Tuberculosis of the lungs	9	39	5	39	....	4
30. Tuberculous meningitis	....	1	....	1	....	....
34. Tuberculosis of other organs	2	4	....	6	....	....
38b. Gonococcus infection	....	1	....	1	....	....
40. Cancer and other malignant tumors of the stomach, liver	....	1	....	1	....	....
46. Other tumors (tumors of the female genital organs excepted)	....	5	....	5	....	....
47. Acute articular rheumatism	....	2	....	2	....	....
48. Chronic rheumatism and gout	....	1	....	1	....	....
50. Diabetes	....	1	....	1	....	....
53. Leuchæmia	....	1	1	....	....	....
54. Anæmia, chlorosis	....	6	....	6	....	....
56. Alcoholism (acute or chronic)	....	5	2	3	....	....
60. Encephalitis	....	4	3	1	....	....
62. Locomotor ataxia	....	1	....	1	....	....
68. Other forms of mental alienation	....	3	....	3	....	....
69. Epilepsy	....	5	....	5	....	....
72. Chorea	1	....	....	1	....	....
73. Neuralgia and neuritis	....	5	....	5	....	....
74. Other diseases of the nervous system	....	11	....	11	....	....
75a. Follicular conjunctivitis	....	3	....	3	....	....
76. Diseases of the ears	....	1	....	1	....	....
78. Acute endocarditis	....	1	....	1	....	....
79. Organic diseases of the heart	....	8	1	7	....	....
81. Diseases of the arteries, atheroma, aneurysm, etc	....	2	....	2	....	....
83. Diseases of the veins (varices, hæmorrhoids, phlebitis, etc.)	....	2	....	1	1	....
84. Diseases of the lymphatic system (lymphangitis, etc.)	....	1	....	1	....	....
85. Hæmorrhage; other diseases of the circulatory system	....	4	....	4	....	....
86. Diseases of the nasal fossæ	....	5	....	4	....	1
89. Acute bronchitis	....	27	....	26	....	1
90. Chronic bronchitis	....	9	....	9	....	....
91. Broncho-pneumonia	....	22	6	15	1	....
92. Pneumonia	....	6	1	4	....	1
93. Pleurisy	....	3	....	3	....	....
96. Asthma	....	1	....	1	....	....
97. Pulmonary emphysema	....	1	....	....	....	1
98. Other diseases of the respiratory system (tuberculosis excepted)	....	4	....	4	....	....
99a. Diseases of the teeth and gums	....	1	....	1	....	....
99b. Other diseases of the mouth and annexa	....	1	....	1	....	....
100. Diseases of the pharynx	....	7	....	7	....	....
102. Ulcer of the stomach	....	4	....	4	....	....
103. Other diseases of the stomach (cancer excepted)	....	38	....	38	....	....
104. Diarrhœa and enteritis (under 2 years)	....	10	....	10	....	....
105. Diarrhœa and enteritis (2 years and over)	2	26	....	28	....	....
106. Ankylostomiasis	....	1	....	1	....	....
107. Intestinal parasites	....	15	....	15	....	....
108. Appendicitis and typhlitis	....	15	....	15	....	....
109. Hernia, intestinal obstruction	....	7	2	5	....	....
110a. Diseases of the anus and fæcal fistula	....	1	....	1	....	....
110b. Other diseases of the intestines	....	11	....	10	....	1
113. Cirrhosis of the liver	....	1	1	....	....	....
114. Biliary calculi	....	1	....	1	....	....
115. Other diseases of the liver	....	1	....	....	....	1
117. Simple peritonitis (nonpuerperal)	....	1	....	1	....	....
118. Other diseases of the digestive system (cancer and tuberculosis excepted)	....	1	....	1	....	1
119. Acute nephritis	....	5	1	4	....	....
120. Bright's disease	1	....	1	....	....	....

BAGUIO HOSPITAL.—Continued.

Diseases.	Remaining at last report.	Admitted.	Died.	Discharged.	Escaped.	Remaining.
122. Other diseases of the kidneys and annexa	....	1	....	1	....	....
123. Calculi of the urinary passages	....	1	....	1	....	....
124. Diseases of the bladder	....	2	....	2	....	....
127. Nonvenereal diseases of the male genital organs	....	4	....	4	....	....
128. Uterine hæmorrhage (nonpuerperal)	....	7	....	7	....	....
129. Uterine tumor (noncancerous)	....	1	....	1	....	....
130b. Other diseases of the uterus	....	12	....	12	....	....
131. Cysts and other tumors of the ovary	....	1	....	1	....	....
132. Salpingitis and other diseases of the female genital organs	....	2	....	2	....	....
133. Nonpuerperal diseases of the breast (cancer excepted)	....	1	....	1	....	....
134a. Normal labor	....	55	....	53	....	2
134b. Accidents of pregnancy	....	15	1	14	....	....
136. Other accidents of labor	1	3	....	4	....	....
137. Puerperal septicæmia	....	1	....	1	....	....
141. Puerperal diseases of the breast	....	1	....	1	....	....
142. Gangrene	....	1	....	1	....	....
143. Furuncle	....	8	....	8	....	....
144. Acute abscess	....	19	....	17	....	2
145a. Trichophytosis	....	1	....	....	....	1
145b. Scabies	....	7	....	7	....	....
145c. Other diseases of the skin and annexa	1	13	....	14	....	....
146. Diseases of the bones (tuberculosis excepted)	....	3	....	2	1	....
147. Diseases of the joints (tuberculosis and rheumatism excepted)	....	3	....	3	....	....
149. Other diseases of the organs of locomotion	....	1	....	1	....	....
150. Congenital malformations (stillbirths not included):						
Hydrocephalus	....	1	....	1	....	....
Other congenital malformations	....	3	....	3	....	....
153. Lack of care	....	5	....	5	....	....
154. Senility	....	2	....	2	....	....
155. Suicide by poison	....	2	....	2	....	....
165b. Other acute poisonings	....	3	....	3	....	....
167. Burns (conflagration excepted)	....	3	....	3	....	....
171. Traumatism by cutting or piercing instruments	....	5	....	5	....	....
172. Traumatism by fall	....	7	....	7	....	....
173. Traumatism in mines and quarries	....	3	....	3	....	....
174. Traumatism by machines	....	3	....	3	....	....
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)	1	11	1	11	....	....
176. Injuries by animals	....	4	....	4	....	....
177. Starvation	....	4	....	3	1	....
183. Homicide by cutting or piercing instruments	....	2	....	1	1	....
184. Homicide by other means	....	4	....	4	....	....
185a. Dislocations	....	2	....	2	....	....
185b. Sprains	....	2	....	2	....	....
185c. Fractures (cause not specified)	....	5	....	4	....	1
186. Other external violence	....	9	....	9	....	....
187. Ill-defined organic disease	....	4	....	4	....	....
189a. Cause of death not specified or ill-defined	....	1	....	1	....	....
189b. No disease, feigned disease	....	2	....	2	....	....
Total	24	831	37	789	11	18

Number of patients treated in the outdoor department at the Baguio Hospital, 3,595.

BAGUIO HOSPITAL.

LABORATORY EXAMINATIONS.

Specimen.	Americans.	Filipinos.	Japanese.	Chinese.	Spaniards.	Germans.	Russians.	Total.
Blood	10	33	2	....	....	....	1	46
Faeces	26	206	2	1	6	1	....	242
Pus	....	6	....	....	....	....	....	6
Sputum	....	27	....	....	3	....	....	30
Urine	5	122	4	2	5	1	2	141
Total	41	394	8	3	14	2	3	465

SUMMARY AND MISCELLANEOUS.

Major operations during the year, 1920	24
Minor operations during the year, 1920	46
Patients that escaped during the year, 1920	11
Patients visits' to hospital clinic during the year	3,595
Patients attended to hospital clinic during the year	1,027
Surgical dressings during the year, 1920	1,218
Medico-legal cases attended during the year, 1920	8
Emergency cases attended during the year, 1920	41
Prescriptions filled during the year, 1920	5,783

BAGUIO HOSPITAL.

MORBIDITY AND MORTALITY OF THE MOST IMPORTANT DISEASES.

Names of diseases.	Number of patients.	Number of deaths.
Typhoid fever	24	3
Malaria	21	....
Measles	10	....
Influenza	81	....
Dysentery	53	6
Tuberculosis pulmonary	49	5
Acute bronchitis	27	....
Broncho-pneumonia	22	6

BAYOMBONG HOSPITAL REPORT.

Diseases.	Remaining Dec. 31, 1919.	Admitted.	Died.	Discharged.	Remaining Dec. 31, 1920.
4. Malaria	....	54	....	52	2
4a. Malarial cachexia	....	5	3	2	....
Wounds	....	11	....	11	....
6. Measles	....	2	....	2	....
9. Diphtheria and croup	....	1	....	1	....
10. Influenza	....	2	....	2	....
14. Dysentery	....	1	....	1	....
19. Other epidemic diseases	....	1	....	1	....
20. Purulent infection and septicæmia	....	2	1	1	....
27. Beriberi	....	3	1	2	....
28. Tuberculosis of the lungs	....	2	....	2	....
31. Abdominal tuberculosis	....	1	1	....	....
38b. Gonococcus infection	....	1	....	1	....
54. Anæmia, chlorosis	....	1	....	1	....
68. Other forms of mental alienation	....	2	....	2	....
73b. Neuralgia and neuritis	....	1	....	1	....
75c. Other diseases of the eyes and their annexa	....	1	....	1	....
78. Acute endocarditis	....	1	....	1	....
92. Pneumonia	....	1	....	1	....
94. Pulmonary congestion, pulmonary apoplexy	....	1	....	1	....
103. Other diseases of the stomach (cancer excepted)	....	5	....	5	....
104. Diarrhoea and enteritis (under 2 years)	....	1	....	1	....
105. Diarrhœa and enteritis (2 years and over)	....	1	....	1	....
116. Diseases of the spleen	....	3	....	3	....
130a. Metritis	....	3	1	2	....
130b. Other diseases of the uterus	....	1	....	1	....
144. Acute abscess	....	1	....	1	....
145b. Scabies	....	1	....	....	1
167. Burns (conflagration excepted)	....	2	....	2	....
185a. Dislocations	....	2	....	2	....
186. Other external violence	....	1	....	1	....
Total	....	115	7	105	3

BONTOC HOSPITAL.

HOSPITAL CASES.

Diseases.	Remaining at last report.	Admitted.	Died.	Escaped.	Discharged.	Remaining.
1. Typhoid fever	1	3	....	....	4	....
4. Malaria	4	55	2	1	54	2
4a. Malarial cachexia	....	1	1	....	....	....
6. Measles	....	1	....	....	1	....
10. Influenza	2	7	....	....	9	....
14. Dysentery	....	15	....	....	13	2
18. Erysipelas	....	1	....	....	1	....
19. Other epidemic diseases	....	9	....	2	6	1
20. Purulent infection and septicæmia	....	15	....	1	14	....
22. Anthrax	....	2	....	....	2	....
27. Beriberi	....	1	1	....	....	....
28. Tuberculosis of the lungs	....	1	....	....	1	....
31. Abdominal tuberculosis	2	1	1	....	2	....
34. Tuberculosis of other organs	....	2	....	....	2	....
37. Syphilis	1	....	....	....	1	....
37b. Syphilis, secondary	....	1	....	....	1	....
37c. Syphilis, tertiary	1	....	....	....	1	....
38b. Gonococcus infections	....	6	....	....	5	1
41. Cancer and other malignant tumors of the peritoneum, intestines, rectum	....	1	1	....	....	....
42. Cancer and other malignant tumors of the female genital organs	....	1	....	....	1	....
44. Cancer and other malignant tumors of the skin	....	1	....	....	1	....
46. Other tumors (tumors of female genital organs excepted)	1	2	....	....	3	....
47. Acute articular rheumatism	....	4	....	....	4	....
48. Chronic rheumatism and gout	....	1	....	....	....	1
54. Anæmia, chlorosis	....	10	....	....	9	1
60. Encephalitis	....	1	1	....	....	....
61. Simple meningitis	....	1	....	....	1	....
68. Other forms of mental alienation	....	1	....	....	1	....
71. Convulsions of infants	....	2	....	....	2	....
73b. Neuralgia and neuritis	....	14	....	1	12	1
74. Other diseases of the nervous system	1	4	....	....	5	....
75a. Follicular conjunctivitis	....	2	....	1	1	....
75b. Trachoma	....	1	....	....	1	....
75c. Other diseases of the eyes and their annexa	....	4	....	....	3	1
76. Diseases of the ears	....	8	....	....	8	....
77. Pericarditis	....	1	1	....	....	....
83. Diseases of the veins (varices, hæmorrhoids, phlebitis, etc.)	....	2	....	....	2	....
84. Diseases of the lymphatic system (lymphangitis, etc.)	....	2	....	....	2	....
85. Hæmorrhage; other diseases of the circulatory system	....	2	....	....	2	....
86. Diseases of the nasal fossæ	....	2	....	....	2	....
87. Diseases of the larynx	....	2	....	....	2	....
88. Diseases of the thyreoid body	....	5	....	....	5	....
89. Acute bronchitis	....	6	....	....	6	....
90. Chronic bronchitis	....	10	....	....	9	1
93. Pleurisy	....	1	1	....	....	....
96. Asthma	....	2	....	....	1	1
99a. Diseases of the teeth and gums	....	3	1	....	2	....
99b. Other diseases of the mouth and annexa	....	1	....	....	1	....
100. Diseases of the pharynx	....	5	....	....	5	....
103. Other diseases of the stomach (cancer excepted)	....	22	....	....	22	....
104. Diarrhœa and enteritis (under 2 years)	....	7	....	....	7	....
105. Diarrhœa and enteritis (2 years and over)	....	24	2	....	22	....
106. Ankylostomiasis	....	1	....	....	1	....
107. Intestinal parasites	....	16	....	1	15	....
108. Appendicitis and typhlitis	....	2	....	....	2	....
110a. Diseases of the anus and fæcal fistulas	....	1	....	....	1	....
110b. Other diseases of the intestine	....	4	1	....	3	....
113. Cirrhosis of the liver	....	1	1	....	....	....
117. Simple peritonitis (non-puerperal)	....	1	1	....	....	....
118. Other diseases of the digestive system (cancer and tuberculosis excepted)	....	2	....	....	2	....
119. Acute nephritis	....	1	....	....	1	....
120. Bright's diseases	1	4	1	....	3	1
124. Diseases of the bladder	....	3	....	....	3	....
125. Diseases of the urethra, urinary abscess, etc	....	1	....	....	1	....
127. Nonvenereal diseases of the male genital organs	....	1	....	....	....	1
130a. Metritis	....	2	....	....	2	....
130b. Other diseases of the uterus	....	1	....	....	1	....
131. Cysts and other tumors of the ovary	....	1	....	....	1	....
132. Salpingitis and other diseases of the female genital organs	....	3	....	....	3	....
134a. Normal labor	....	24	....	....	24	....
134b. Accidents of pregnancy	....	4	....	....	4	....
135. Puerperal hæmorrhage	....	1	....	....	1	....
143. Furuncle	....	4	....	....	4	....

BONTOC HOSPITAL—Continued.

HOSPITAL CASES.

Diseases.	Rimaining at last report.	Admitted.	Died.	Escaped.	Discharged.	Remaining.
144. Acute abscess	....	14	....	....	14	....
145b. Scabies	1	27	....	....	28	....
145c. Other diseases of the skin and annexa	7	82	....	2	75	12
147. Diseases of the joints (tuberculosis and rheumatism excepted)	1	4	....	1	4	....
167. Burns (conflagration excepted)	....	2	....	....	2	....
171. Traumatism by cutting or piercing instruments	2	15	....	....	17	....
172. Traumatism by fall	....	5	1	....	4	....
176. Injuries by animals	....	1	....	....	....	1
185a. Dislocations	....	1	....	....	1	....
185b. Sprains	....	2	....	....	2	....
185c. Fractures (cause not specified)	....	1	....	....	1	....
186. Other external violence	....	5	....	....	5	....
187. Ill-defined organic diseases	....	4	....	....	4	....
189a. Cause of death not specified or ill-defined	....	4	....	....	3	1
Total	25	521	17	10	491	28

Number of cases treated in the Outdoor Department at the Bontoc Hospital, 2,609.
Number of treatments in the Outdoor Department at the Bontoc Hospital, 9,421.
Number of cases treated in the Provincial Health Stations by Medical Officers or **Assistant** Sanitary Inspector, Mountain Province, 9,411.

LABORATORY EXAMINATIONS.

Specimen.	Number.	Specimen.	Number.
Urine	95	Blood	52
Stool	95	Sputum	18
Urethral pus	10		
Vaginal pus	8	Total	278

CHINESE HOSPITAL—SICK REPORT.

[Dr. Tee Han Kee, Physician in **Charge.**]

In hospital at last report	34
Receiving during the year	460
Discharged	353
Died	105
Remaining in hospital at end of the year	36

CULION LEPER COLONY.

MOVEMENT OF POPULATION, BY SEX AND NATIONALITY.

Status.	Americans.	European.	Chinese.	Chamorros.		Filipinos.		Total.
	Male.	Male.	Male.	Male.	Female.	Male.	Female.	
January 1, 1920	9	.....	8	12	2	2,994	1,681	4,706
Admitted	.....	1	2	1	.....	404	197	605
Readmitted	.....	.....	.....	.....	.....	13	4	17
Born	.....	.....	.....	.....	.....	40	32	72
Total	9	1	10	13	2	3,451	1,914	5,400
Died	1	.....	.....	2	.....	327	162	492
Discharged	1	.....	.....	.....	.....	9	5	15
Escaped	.....	.....	.....	.....	.....	21	9	30
Missing [a]	.....	.....	.....	.....	.....	1	.....	1
Remaining, December 31, 1920	7	1	10	11	2	3,093	1,738	4,862

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[a] **Report being devoured by a crocodile on the beach near the Sanitary Barrio, Colony.**

MOVEMENT OF POPULATION, BY MONTHS.

Month.	Admissions.	Readmissions.	Births.	Deaths.	Discharges.	Escapes.	Missing.	Marriages.
January	......	......	6	42	......	......	1	1
February	......	......	5	49	......	19	......	3
March	......	6	2	38	......	......	......	1
April	......	......	9	39	......	......	......	3
May	225	3	8	43	3	......	......	7
June	131	......	8	40	11	11	......	7
July	......	......	6	54	......	......	......	3
August	......	......	7	36	......	......	......	7
September	......	......	7	31	......	......	......	6
October	......	......	4	20	......	......	......	6
November	249	8	4	37	1	......	......	12
December	......	......	6	63	......	......	......	6
Total	605	17	72	492	15	30	1	62

POPULATION BY NATIONALITY, SEX, AND CIVIL CONDITION.

[December 31, 1920.]

Nationality.	Male.	Female.	Civil status.	Male.	Female.
Americans	7	....	Single	845	271
European	1	....	Married	1,410	888
Chinese	10	....	Widowed	137	168
Chamorros	11	2	Divorced	1	....
Filipinos	3,093	1,738	Children	729	413
Total	3,122	1,740	Total	3,122	1,740
Grand total	4,862		Grand total	4,862	

Population January 1, 1920	4,706
Population December 31, 1920	4,862
Increase in European	1
Increase in Chinese	1
Increase in Filipinos	153
Decrease in Americans	2
Decrease in Chamorros	1

BIRTHS.

Total for one year	72
Legitimate	42
Illegitimate	30
Conceived at the Colony	68
Death among these births	20

MARRIAGES.

[By age and civil status.]

Age.	Males.		Females.									
			15 to 20 years.		21 to 25 years.		26 to 30 years.		31 to 40 years.		Over 40 years.	
	Single.	Widowed.	Single.	Widowed.	Single.	Widowed.	Single.	Widowed.	Single.	Widowed.	Single.	Widowed.
15 to 20 years	9	.....	5	0	1	2	.....	1	.....	.....	.....	.....
21 to 25 years	18	3	8	1	4	2	2	2	2	.....	.....	.....
26 to 30 years	9	.....	5	1	1	.....	1	1	.....	.....	.....	.....
31 to 40 years	10	4	3	.....	4	.....	.....	3	.....	2	.....	2
41 to 50 years	1	4	.....	.....	.....	1	1	1	.....	.....	.....	2
Over 50 years	.....	4	.....	.....	.....	.....	.....	.....	1	2	.....	1
Total	47	15	21	2	10	5	4	8	3	4	.....	5

In these sixty-two marriages one of the contracting parties was a Chinese, the rest being all Filipinos; there were no divorced persons married, no known relationship or affinity.

CAUSES OF DEATH.

[Classified by international list.]

Diseases.	Number.	T otal.
4. Malaria	38	38
10. Influenza	2	2
14. Dysentery, chronic	38	38
17. Leprous fever	3	
Leprous cachexia	85	88
24. Tetanus	1	1
27. Beriberi, adult	1	
Beriberi, infantile	4	5
28. Tuberculosis, pulmonary	119	
Tuberculosis, laryngea	2	121
31. Tuberculosis, intestinal	14	14
34. Tuberculosis, osseous	4	4
35. Tuberculosis, genaralized	1	1
39. Cancer of the mouth	1	1
46. Tumor of the neck	1	1
47. Rheumatism, articular	5	
Rheumatism, cardiac	2	7
54. Anæmia	4	4
61. Meningitis, leprous	4	4
64. Cerebral congestion	5	
Cerebral hæmorrhage	3	8
68. Dementia	1	1
71. Convulsions, infantile	4	4
73. Neuralgia, intercostal	1	1
74. Neurosis, traumatic	1	1
79. Organic diseases of the heart:		
Endocarditis	3	
Myocarditis	27	
Mitral insufficiency	2	32
80. Angor pectoris	1	1
81. Arteriosclorosis	2	2
90. Broncho-pneumonia	1	1
91. Bronchitis, chronic	12	12
92. Pneumonia lobar	1	1
94. Congestion, pulmonary	2	2
100. Pharyngitis	2	2
102. Ulcer of the stomach	1	1
104. Gastroenteritis (less 2 years)	7	7
105. Gastroenteritis (2 years or over)	23	23
109. Obstruction, intestinal	1	1
115. Hepatitis	3	3
120. Nephritis, chronic	8	
Uremia	2	10
130. Menstrual suppression	1	1
135. Septicæmia, puerperal	1	1
136. Accident, labor	1	1
142. Gangrene, leprous	20	20
151. Premature birth	2	
Congenital debility	1	
Stillbirths	6	9
154. Senile debility, with leprous cachexia	13	13
169. Drowning, accidental	1	1
183. Homicide by cuting instrument	2	2
189. Ill-defined diseases	2	2
Total	492	492

CULION LEPER COLONY.

NUMBER OF TREATMENTS DONE AT THE OUTDOOR SURGICAL CLINIC AT THE COLONY, BY MONTHS DURING THE YEAR, 1920.

Months.	Number of treatments.	Months.	Number of treatments.
January	15,849	August	9,055
February	8,962	September	9,034
March	10,467	October	10,948
April	8,616	November	9,256
May	9,216	December	9,911
June	9,729		
July	12,337	Total	123,380

Of these total treatments, 76 per cent was rendered to male patients and 24 per cent to female patients.

MEDICAL TREATMENTS RENDERED AT THE OUTDOOR MEDICAL CLINIC AT THE COLONY, BY MONTHS DURING THE YEAR, 1920.

Months.	Number of treatments.	Months.	Number of treatments.
January	1,305	August	1,356
February	1,365	September	1,769
March	1,478	October	1,382
April	1,134	November	1,409
May	1,023	December	1,259
June	1,426		
July	1,171	Total	16,077

CUYO HOSPITAL.

HOSPITAL CASES.

Diseases.	Remaining at last report.	Admitted.	Died.	Discharged.	Remaining.
1. Typhoid fever		1	1		
4. Malaria		19		19	
10. Influenza		2		2	
14. Dysentery		4	1	3	
22. Anthrax		1		1	
38b. Gonococcus infection		1		1	
46. Other tumors (tumors of the female genital organs excepted)		1		1	
75c. Other diseases of the eyes and their annexa		1		1	
86. Diseases of the nasal fossæ		2		2	
89. Acute bronchitis		1		1	
90. Chronic bronchitis		1		1	
91. Broncho-pneumonia		1		1	
99b. Other diseases of the mouth and annexa		2		2	
103. Other diseases of the stomach (cancer excepted)		22		21	1
104. Diarrhœa and enteritis (2 years and over)		2		2	
107. Intestinal parasites		3		3	
130a. Metritis		2		2	
134a. Normal labor		5		5	
143. Furuncle		3		3	
144. Acute abscess		2		2	
145c. Other diseases of the skin and annexa		5		5	
171. Traumatism by cutting or piercing instruments		5		5	
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)		3		3	
176. Injuries by animals		6		6	
185b. Sprains		1		1	
187. Ill-defined organic disease		3		3	
189a. Cause of death not specified or ill-defined		9	1	7	1
Total		108	3	103	2

LEYTE HOSPITAL.

Months.	Patients admitted.				Cases.					Results of discharged patients.					Operation.	Operation.		Dressings.	
	Ordinary wards.	Private wards.	Free patients.	Total.	Medical.	Surgical.	Obstetrical.	Nursery.	Gynecological.	Recovered.	Improved.	Cured.	Unimproved.	Dead.	Remaining.	Major.	Minor.	Major.	Minor.
1919																			
December	4	1	1	6	2	2	1	1	......	......	......	......	......	......	6	......	......	......	......
1920																			
January	16	2	3	21	14	4	1	1	1	2	6	12	1	1	5	......	6	2	50
February	17	3	2	22	6	6	3	2	5	3	4	8	1	1	10	......	3	2	65
March	14	6	3	23	14	3	3	1	2	15	7	3	4	......	4	......	......	......	44
April	20	5	4	29	19	7	1	1	1	15	4	4	1	1	8	......	3	2	70
May	19	6	1	26	15	5	2	2	2	8	8	9	3	1	5	......	1	6	8
June	29	4	4	37	19	7	4	1	6	14	7	7	2	2	10	......	5	5	206
July	23	4	4	31	20	3	2	3	3	12	13	5	1	1	9	......	2	1	107
August	40	6	......	46	27	9	4	4	2	22	8	15	......	......	10	1	4	6	72
September	12	4	1	17	10	3	2	1	1	7	4	5	1	2	8	1	1	8	78
October	17	2	1	20	13	5	1	......	1	9	4	5	4	1	5	......	1	6	78
November	21	4	2	27	19	6	1	......	1	8	7	2	3	1	11	......	3	7	97
December	15	6	2	23	16	3	2	2	......	14	5	3	2	2	8	......	1	1	149
Total	247	53	28	328	194	63	27	19	25	129	77	78	23	13	99	2	30	46	1,024

NAGA, PROVINCIAL HOSPITAL.

HOSPITAL CASES DURING THE PERIOD FROM JANUARY TO JUNE, 1920.

Diseases.	Remaining at last report.	Admitted.	Died.	Discharged.	Remaining.
1. Typhoid fever	......	10	2	8	......
4. Malaria	4	80	2	82	......
5. Smallpox	......	1	......	1	......
6. Measles	......	1	......	1	......
10. Influenza	......	8	......	8	......
14. Dysentery	1	18	1	18	......
20. Purulent infection and septicæmia	......	4	......	4	......
22. Anthrax	......	10	......	10	......
27. Beriberi	......	4	1	3	......
28. Tuberculosis of the lungs	......	9	......	9	......
34. Tuberculosis of other organs	......	1	1	......	......
37. Syphilis	......	1	......	1	......
38. Gonococcus infection	......	2	......	2	......
45. Cancer and other malignant tumors of the peritoneum, intestines, rectum	......	1	......	1	......
47. Acute articular rheumatism	......	2	......	2	......
54. Anæmia, chlorosis	......	6	......	6	......
64. Cerebral hæmorrhage, apoplexy	......	1	1	......	......
66. Paralysis without specified cause	......	3	......	3	......
73. Neuralgia and neuritis	......	5	......	5	......
74. Other diseases of the nervous system	......	4	......	4	......
75. Diseases of the eyes and their annexa	......	4	......	4	......
79. Organic diseases of the heart	......	2	......	2	......
84. Diseases of the lymphatic system (lymphangitis, etc.)	......	1	......	1	......
89. Acute bronchitis	......	9	2	7	......
91. Broncho-pneumonia	......	4	1	3	......
92. Pneumonia	......	4	......	4	......
93. Pleurisy	......	1	1	......	......
94. Pulmonary congestion, pulmonary apoplexy	......	4	......	4	......
96. Asthma	......	2	......	2	......
100. Diseases of the pharynx	......	1	......	1	......
103. Other diseases of the stomach (cancer excepted)	......	18	......	18	......
104. Diarrhœa and enteritis (under 2 years)	......	8	......	8	......
105. Diarrhœa and enteritis (2 years and over)	......	10	......	10	......
106. Ankylostomiasis	......	4	......	4	......
107. Intestinal parasites	......	12	......	12	......
108. Appendicitis and typhlitis	......	3	......	3	......
113. Cirrhosis of the liver	......	2	......	2	......
115. Other diseases of the liver	......	2	......	2	......
117. Simple peritonitis (nonpuerperal)	......	2	......	2	......
118. Other diseases of the digestive system (cancer and tuberculosis excepted)	......	3	......	3	......
119. Acute nephritis	......	7	......	7	......
120. Bright's disease	......	3	......	3	......
123. Calculi of the urinary passages	......	1	......	1	......
124. Diseases of the bladder	......	1	......	1	......
127. Nonvenereal diseases of the genital organs	......	1	......	1	......
130. Other diseases of the uterus	......	6	......	6	......
133. Nonpuerperal diseases of the breast (cancer excepted)	......	2	......	2	......
135. Puerperal hæmorrhage	......	2	2	......	......
136. Other accident of labor	......	1	......	1	......
137. Puerperal septicæmia	......	1	1	......	......
144. Acute abscess	......	5	......	5	......
145. Other diseases of the skin and annexa	......	2	......	2	......
148. Amputations	......	1	......	1	......
153. Lack of care	......	3	......	3	......
167. Burns (conflagration excepted)	......	4	1	3	......
170. Traumatism by firearms	......	1	......	1	......
172. Traumatism by fall	......	1	......	1	......
183. Homicide by cutting or piercing instruments	......	1	1	......	......
185. Fractures (cause not specified)	......	4	......	4	......
186. Other external violence	......	9	......	9	......
Total	5	323	17	311	......

DEATHS BY AGES.

30 days to under 1 year	1
2 years to under 4 years	1
5 years to 9 years	2
10 years to 14 years	1
25 years to 29 years	6
30 years to 39 years	4
50 years to 59 years	1
60 years to 69 years	1
Total	17

PRISON SANITATION.

MOVEMENT OF PRISONERS.

Items.	Foreigners.	Females.	Chinese and other Asiatics.	Filipinos.	Total.
Remaining, December 31, 1919	23	133	194	2,329	2,679
New admissions	117	246	369	3,175	3,907
Return admissions	2	4	12	749	767
Total	142	383	575	6,253	7,353
Died, released and transferred	111	264	450	3,735	4,560
Remaining, December 31, 1920	31	119	125	2,518	2,793

Daily average number of prisoners:

In Bilibid (Manila)	2,714
At outside stations	2,457

PRISON SANITATION.

BILIBID PRISON—REPORT OF SICK.

(BILIBID HOSPITAL.)

[Classified according to the "International List of Diseases."]

Diseases.	Remaining, Dec. 31, 1919.	Admitted.	Died.	Transferred.	Discharged.	Remaining.
4. Malaria:						
Malarial fever	1	15	......	......	16	......
5. Smallpox:						
Varioloid	......	3	......	1	2	......
8. Whooping cough:						
Whooping cough	......	3	......	......	3	......
10. Influenza:						
Influenza	5	12	......	......	17	......
12. Asiatic cholera:						
Cholera carrier	......	1	......	......	1	......
14. Dysentery:						
Amœba coli	2	108	......	......	108	2
Amœbiasis intestinal	1	3	2	......	2	......
Amœbic dysentery	1	3	......	......	4	......
Dysentery	2	21	......	......	23	......
17. Leprosy:						
Leprosy	......	1	......	......	......	1
19. Other epidemic diseases:						
Dengue	......	2	......	......	2	......
Mumps	1	15	......	3	13	......
Yaws	......	1	......	......	1	......

PRISON SANITATION—Continued.

BILIBID PRISON—REPORT OF SICK—Continued.

Diseases.	Remaining Dec. 31, 1919.	Admitted.	Died.	Transferred.	Discharged.	Remaining.
20. Purulent infection and septicæmia:						
Infected wound, ankle, right		2			2	
Infected wound, abdomen		1			1	
Infected wound, ear, left		1			1	
Infected wound, finger, left		1			1	
Infected wound, feet, both		1			1	
Infected wound, foot, left		9			9	
Infected wound, foot, right		16			16	
Infected wound, forehead		2			2	
Infected wound, hand, left	1	1			2	
Infected wound, hand, right		1			1	
Infected wound, heel, right		1			1	
Infected wound, knee, left		1			1	
Infected wound, leg, right		1			1	
Infected wound, thumb, right		1			1	
Infection from vaccination		1			1	
27. Beriberi:						
Beriberi	2	21	1		21	1
28. Tuberculosis of the lungs:						
Pulmonary tuberculosis	28	82	63		8	39
31. Abdominal tuberculosis:						
Tuberculous peritonitis		2	2			
33. White swellings:						
Abscess of hip, right		1			1	
34. Tuberculosis of other organs:						
Tuberculosis of testicle		2			1	1
Tuberculous abscess		1				1
Tuberculous adenitis		1				1
37. Syphilis:						
Primary syphilis	1	4			5	
Secondary syphilis		3			3	
Syphilis		1			1	
Syphilitic bubo		1			1	
Tertiary syphilis		4			4	
38. Gonococcus infection:						
Chancroid		10			10	
Gonorrhœa	5	59			62	2
Inguinal bubo, left	1	1			2	
Inguinal bubo, right		1			1	
46. Other tumors (tumors of the female genital organs excepted):						
Fibroma		1			1	
Hæmatoma, upper		1			1	
Lipoma		1			1	
Sebaceous cyst		1			1	
Sebaceous cyst multiple	1				1	
Tumor of axilla, left		1			1	
47. Acute articular rheumatism:						
Acute arthritis infection	1				1	
Articular rheumatism	2	35			33	4
Rheumatism		9			9	
48. Chronic rheumatism and gout:						
Chronic arthritis infection	1	1			2	
Chronic rheumatism		6			6	
55. Other general diseases:						
Autointoxication		1			1	
56. Alcoholism (acute or chronic):						
Alcoholism		1				1
59. Other chronic poisonings:						
Morphinism		14			14	
Opium poisoning	7	161			168	
62. Locomotor ataxia:						
Tabes dorsalis	1	1			2	
63. Other diseases of the spinal cord:						
Spastic paraplegia		1			1	
64. Cerebral hæmorrhage, apoplexy:						
Cerebral hæmorrhage		2	1			1

PRISON SANITATION—Continued.

BILIBID PRISON—REPORT OF SICK—Continued.

Diseases.	Remaining, Dec. 31, 1919.	Admitted.	Died.	Transferred.	Discharged.	Remaining.
66. Paralysis without specified cause:						
Hemiplegia, right	2		1			1
Paralysis	1				1	
68. Other forms of mental alienation:						
Insanity	7	2			3	6
Melancholia	1				1	
69. Epilepsy:						
Epilepsy		2			2	
73. Neuralgia and neuritis:						
Hysteria		1			1	
75b. Trachoma:						
Trachoma		1			1	
75c. Other diseases of the eyes and their annexa:						
Amaurosis	1	1			2	
Blepharitis		1			1	
Cataract		1			1	
Conjunctivitis		17			16	1
Foreign body in eye, left		2			2	
Glaucoma right		2			1	1
Hordeolum, eyelid, left		2			2	
Stye, eye, left		2			2	
76. Diseases of the ears:						
Otitis media		2			2	
79. Organic diseases of the heart:						
Mitral regurgitation	1				1	
83. Diseases of the veins (varices, hæmorrhoids, phlebitis, etc.):						
Hæmorrhoids, external		2			2	
Hæmorrhoids, internal		2			2	
Varicocele	1	1			2	
84. Diseases of the lymphatic system (lymphangitis, etc.):						
Abscess of axilla, left		1			1	
Abscess of groin, right		3			3	
Adenitis of neck, left side		1			1	
Axillary adenitis		1			1	
Cervical adenitis	2	5			7	
Inguinal adenitis		4			4	
85. Hæmorrhage; other diseases of the circulatory system:						
Epistaxis		2			2	
Hæmorrhage of abdomen		1	1			
86. Diseases of the nasal fosæ:						
Ecchondrosis of nose, left		1			1	
Inflammation of nostril		2			2	
90. Chronic bronchitis:						
Chronic bronchitis		2			2	
92. Pneumonia:						
Lobar pneumonia, left	1	32	5		27	1
Lobar pneumonia, right	2	47	6		43	
Lobar pneumonia, double		6	5		1	
93. Pleurisy:						
Empyema		1			1	
Pleurisy, right		9			7	2
95. Gangrene of the lung:						
Gangrene of lung, right		4	4			
96. Asthma:						
Asthma	1	25			26	
98. Other diseases of the respiratory system (tuberculosis excepted):						
Spitting of blood		31			31	
99. Diseases of the mouth and annexa:						
Alveolar abscess		14			14	
Dental caries		13		1	12	
Gingivitis		2			2	
Stomatitis	1	8			9	
Toothache		1			1	
100. Diseases of the pharynx:						
Amygdalitis		1			1	
Sore throat		2			2	
Tonsillitis		1			1	
102. Ulcer of the stomach:						
Gastric ulcer		2			1	1
103. Other diseases of the stomach (cancer excepted):						
Dyspepsia	1				1	
Indigestion		1			1	

PRISON SANITATION—Continued.

BILIBID PRISON—REPORT OF SICK—Continued.

Diseases.	Remaining, Dec. 31, 1919.	Admitted.	Died.	Transferred.	Discharged.	Remaining.
105. Diarrhœa and enteritis:						
Diarrhœa		11			11	
Duodenal ulcer		1	1			
106. Ankylostomiasis:						
Ankylostomiasis	2	519			521	
107. Intestinal parasites:						
Ascarias lumbricoides		759			757	2
Tænia saginata		2			2	
108. Appendicitis and typhlitis:						
Abscess of iliac fossa right		1			1	
Appendicitis, acute	1	2			3	
109. Hernia, intestinal obstruction:						
Inguinal hernia, left		2			2	
Inguinal hernia, right		3			3	
Inguinal hernia, double		2			2	
110. Other diseases of the intestines:						
Abscess of anus		2			2	
Fistula in ano	1	6			7	
Prolapse of anus		2			2	
115. Other diseases of the liver:						
Acute hepatitis		3	3			
Cholecystitis		2			2	
117. Simple peritonitis (nonpuerperal):						
General peritonitis		1	1			
118. Other diseases of the digestive system (cancer and tuberculosis excepted):						
Abscess of abdomen		1			1	
120. Bright's diseases:						
Chronic interstitial nephritis		5	2		3	
Interstitial nephritis		5	1		4	
Nephritis		1			1	
Parenchymatous nephritis		2	2			
122. Other diseases of the kidneys and annexa:						
Hæmatinuria		1			1	
124. Diseases of the bladder:						
Cystitis		1			1	
125. Diseases of the urethra, urinary abscess, etc.:						
Urinary abscess		1			1	
127. Nonvenereal diseases of the male genital organs:						
Circumcision		2			2	
Epididymitis		11			11	
Hydrocele, left	1	6			7	
Hydrocele, right		3			3	
Hydrocele, double		2			2	
Orchitis		1			1	
134. Accidents of pregnancy:						
Abortion		1			1	
Pregnancy		8			6	2
136. Other accidents of labor:						
Childbirth	1	4			5	
143. Furuncle:						
Boil, arm, left		2			2	
Carbuncle of back		1			1	
Carbuncle of lip upper		1			1	
Furuncle		2			2	
Furunculosis		1			1	
144. Acute abscess:						
Abscess of chest		2			2	
Abscess of arm, right		2			2	
Abscess of buttock		5			5	
Abscess of check, right		1			1	
Abscess of foot, left		3			3	
Abscess of foot, right		1			1	
Abscess of head		1			1	
Abscess of knee, right		1			1	
Abscess of leg, left		1			1	
Abscess of leg, right		1			1	
Abscess of neck, right		2			2	
Abscess of palm, right		2			2	
Abscess of thigh, left		1			1	
Abscess of thigh, right		1			1	
Cellulitis		6			6	
Cellulitis leg, left		5			5	
Inguinal abscess, left		3			2	1
Inguinal abscess, right		3			2	1
Pericranial suppuration		2			2	

PRISON SANITATION—Continued.

BILIBID PRISON—REPORT OF SICK—Continued.

Diseases.	Remaining, Dec. 31, 1919.	Admitted.	Died.	Transferred.	Discharged.	Remaining.
145a. Trichophytosis:						
Tinia imbricata	5	187			186	6
145b. Scabies:						
Scabies	3	68			70	1
145c. Other diseases of the skin and annexa:						
Dermatitis		1			1	
Eczema		1			1	
Elephantiasis of foot, right		1			1	
Fistulous ulcer		1			1	
Herpes zoster		1			1	
Skin parasites		4			4	
Ulcer of foot, left		1			1	
Ulcer of foot, right		1			1	
146. Diseases of the bones (tuberculosis excepted):						
Abscess of lower jaw		1			1	
Chronic mastoiditis		1	1			
148. Amputations:						
Amputation second phalanx, left		1			1	
149. Other diseases of the organs of locomotion:						
Abscess intramuscular, right		1			1	
Muscular rheumatism		12			12	
150. Congenital malformations (stillbirths not included):						
Phimosis		10			10	
151. Congenital debility, icterus, and sclerema:						
General debility		2			2	
155. Suicide by poison:						
Suicide by bichloride of mercury		1	1			
167. Burns (conflagration excepted):						
Burn both feet		2			2	
Burns finger, left		1			1	
Burns toe, right		1			1	
171. Traumatism by cutting or piercing instruments:						
Incised wound, chest, right		1				1
Incised wound, foot, left		1			1	
Incised wound, foot, right		1			1	
Incised wound, hand, left		1				1
Incised wound, hand, right		1			1	
Punctured, wound, foot, left		1			1	
Punctured wound, foot, right		1			1	
Wound cut sole foot, right		1			1	
175. Traumatism by other crushing (vehicles, railways, landslides, etc.):						
Crush wound, foot, right		2			2	
Crush wound, forehead		1			1	
Crush wound, hand, right		1				1
Crush wound, toe, left		1			1	
Crush wound, upper lip		1			1	
179. Effects of heat:						
Prickly heat		1			1	
183. Homicide by cutting or piercing instruments:						
Stab wound costal, region		1			1	
Stab wound neck, back side		1			1	
Stab wound shoulder, left		1			1	
Stab wound foot, right		1			1	
185a. Dislocations:						
Dislocation wrist, left		1			1	
Dislocation wrist, right		2			2	
185b. Sprains:						
Sprains ankle, left		2			2	
Sprains ankle, right	1	2			3	
Sprains both hands		1			1	
Sprains elbow, left		2			2	
Sprains elbow, right		2			2	
Sprains foot, left		1			1	
Sprains foot, right		1			1	
Sprains hip, left		1			1	
Sprains pelvic bone, left side		3			3	
Sprains wrist, left		2			2	
18 Sprains wrist, right		1			1	
5c. Fractures:						
Fracture complete femur, left		1			1	
Fracture foot, left		1			1	
Fracture of radius right		1			1	
Fracture toe, left		1			1	

PRISON SANITATION—Continued.

BILIBID PRISON—REPORT OF SICK—Continued.

Diseases.	Remaining, Dec. 31, 1919.	Admitted.	Died.	Transferred.	Discharged.	Remaining.
186. Other external violence:						
Contusion, eyebrow, right		1			1	
Contusion, face, right		3			3	
Contusion, femur, right		2			2	
Contusion, foot, left		2			2	
Contusion, foot, right		2			2	
Contusion, hand, left		2			2	
Contusion, hand, right		1			1	
Contusion, leg, left		1			1	
Contusion, scapular region		1			1	
Contusion toes, left		1			1	
Contusion toes, right		2			2	
Contusion upper lid, left		3			3	
Laceration, ankle both feet		1			1	
Laceration, ear, left		1			1	
Laceration, eye-lid, left		2			2	
Laceration, frontal bone		2			2	
Laceration, forehead		1			1	
Laceration, frontal region		2			2	
Laceration, hand, right		1			1	
Laceration, heel, left		1			1	
Laceration, tendon, foot, left		1			1	
Laceration, toe, right		1			1	
187. Ill-defined organic disease:						
Ascites		3			2	1
189. Cause of death not specified or ill-defined:						
Fever	1	385			382	4
Headache		43			41	2
Observation	15	651			655	11
Observation for chest pain		26			26	
Observation for general debility		2			2	
Observation for insanity	3	10			7	6
Observation for stomach-ache		23			22	1
Observation for tuberculosis	24	110			126	8
Non-agglutinable vibrio carrier		3			8	
Parasitic treatment		7			7	
Total	144	3,986	103	5	3,906	~~161~~ 116

PRISON SANITATION DIVISION.

(BILIBID HOSPITAL).

MORTALITY REPORT FOR THE YEAR ENDING DECEMBER 31, 1920.

Causes of death.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
BILIBID HOSPITAL.													
14. Intestinal amœbiasis						1			1				2
27. Beriberi								1					1
28. Pulmonary tuberculosis	2	4	4	1	4	3	2	10	4	10	11	8	63
31. Tuberculous peritonitis					1				1				2
64. Cerebral hæmorrhage						1							1
66. Hemiplegia, right		1											1
85. Hæmorrhage of abdomen								1					1
92. Lobar pneumonia, right	1			1		1				2	1		6
92. Lobar pneumonia, left				1				1		1	1	1	5
95. Gangrene of lung, right		1		1			1			1			4
92. Lobar pneumonia, double				1				1		1	1	1	5
105. Duodenal ulcer					1								1
115. Acute hepatitis									1		1	1	3
117. General peritonitis					1								1
120. Interstitial nephritis			1										1
120. Chronic interstitial nephritis				1	1								2
120. Parenchymatous nephritis				1								1	2
146. Chronic mastoiditis					1								1
155. Suicide by bichloride of mercury and acid		1											1
Total	3	7	5	7	9	6	3	14	7	15	15	12	103

NOTE.—Of 103 deaths occurring in Bilibid Hospital (8) returned prisoners died of diseases contracted from outside stations and have been charged to the respective stations.

CORREGIDOR—Pulmonary tuberculosis	8
BILIBID—Suicide by poison	1
Less number of deaths charged to outside station	8
Less number of deaths by suicide	1
Total number of deaths charged to Bilibid Hospital	94

Legal execution .3 } Not calculated in death rates.
Suicide by poison .1 }

PRISON SANITATION DIVISION—Continued.

(BILIBID HOSPITAL—Continued.)

MORTALITY FOR OUTSIDE STATIONS.

Causes of deaths.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
CORREGIDOR.													
28. Pulmonary tuberculosis	....	1	1	....	....	....	....	....	2	2	1	1	[a] 8
92. Lobar pneumonia	....	....	....	1	....	....	....	....	....	....	....	....	1
Total	....	1	1	1	....	....	....	....	2	2	1	1	9
IWAHIG.													
4. Malaria	....	1	....	1	....	....	....	....	....	....	....	....	2
28. Pulmonary tuberculosis	....	2	....	3	1	....	....	1	1	2	1	2	13
120. Bright's disease	....	....	....	....	....	....	....	....	....	1	....	....	1
Total	....	3	....	4	1	....	....	1	1	3	1	2	16
SAN RAMON.													
28. Pulmonary tuberculosis	....	....	....	....	....	....	....	....	1	....	....	....	1
96. Asthma	....	....	....	....	1	....	....	....	....	....	....	....	1
113. Cirrhosis of liver	....	1	....	....	....	....	....	....	....	....	....	....	1
154. Senility	....	....	....	....	....	....	....	....	....	1	....	....	1
Total	....	1	....	....	1	....	....	....	1	1	....	....	4
SAN LAZARO.													
37. Tertiary syphilis	....	....	....	....	....	....	....	1	....	....	....	....	1
SUMMARY.													
Bilibid Hospital	3	5	4	7	9	6	3	14	5	13	14	11	94
Corregidor	....	1	1	[b] 1	....	....	....	....	2	2	1	1	9
Iwahig	....	3	....	4	1	....	....	1	1	3	1	2	16
San Ramon	....	1	....	....	1	....	....	....	1	1	....	....	4
San Lazaro	....	....	....	....	....	....	....	1	....	....	....	....	1
Legal execution [a]	....	2	....	1	....	....	....	....	....	....	....	....	3
Suicide by poison [a]	....	1	....	....	....	....	....	....	....	....	....	....	1
Grand total	3	13	5	13	11	6	3	16	9	19	16	14	128

[a] Not calculated in death rates.

[b] Died at Corregidor.

PRISON SANITATION.

LABORATORY EXAMINATIONS.

	Number.
Examinations and analysis by Bureau of Science:	
Stool, for cholera vibrio	87,823
Blood, for Wasserman reaction	15
Blood, for Vidal reaction	1
Person, for leprosy	2
Miscellaneous	2
By outside dental office:	
Dental treatments	5

	Number.
By Bilibid Hospital Laboratory:	
Blood	1,599
Blood counts	31
Stool	8,773
Sputum	2,657
Urine	4,255
Miscellaneous	11

SUMMARY AND MISCELLANEOUS.

	Number.
Autopsies	24
Births	6
Pharmacy:	
Prescriptions filled	7,255
Surgical department:	
Operating room, operations	32
Dressing room:	
Dressing in hospital cases	3,608
Dental treatment	93
Quaratine and out patient department:	
Vaccination in quaratine	4,674
Vaccination in brigades	726
Medical treatment:	
Number of prisoners treated	4,212
Number of visits	16,443

	Number.
Minor surgery and dressing:	
Number of prisoners treated	2,126
Number of visits	5,765
Treatments for intestinal parasites:	
Number of prisoners and treatments	998
Treatment for skin diseases in cell houses and brigades:	
Number of prisoners treated	3,868
Number of treatments	38,819
Dental treatments:	
Number of prisoners treated	237
Number of treatments	367

PRISON SANITATION—Continued.

IHAWIG PENAL COLONY—SICK REPORT.

Diseases.	Remaining at last report.	Admitted.	Died.	Discharged.	Remaining.
1. Typhoid fever	......	1	......	1	......
4. Malaria	6	417	2	407	14
10. Influenza	5	4	......	9	......
14. Dysentery	......	11	......	11	......
19. Other epidemic diseases	1	1	......	2	......
20. Purulent infection and septicæmia	......	47	......	41	6
27. Beriberi	......	1	1	......	......
28. Tuberculosis of the lungs	3	56	17	38	4
37. Syphilis	......	1	......	1	......
46. Other tumors (tumors of the female genital organs excepted)	......	2	......	2	......
47. Acute articular rheumatism	......	26	......	26	......
48. Chronic rheumatism and gout	1	......	......	1	......
54. Anæmia, chlorosis	......	2	......	2	......
55. Other general diseases	......	1	......	1	......
59. Other chronic poisonings	......	1	......	1	......
63. Other diseases of the spinal cord	......	1	......	1	......
66. Paralysis without specified cause	......	1	......	1	......
68. Other form of mental alienation	......	1	......	1	......
69. Epilepsy	......	3	......	3	......
73. Neuralgia and neuritis	......	18	......	18	......
74. Other diseases of the nervous system	......	2	......	2	......
75. Diseases of the eyes and their annexa	......	6	......	6	......
77. Pericarditis	......	1	......	1	......
78. Acute endocarditis	......	1	1	......	......
83. Diseases of the veins (varices, hæmorrhoids, phlebitis, etc.)	......	1	....	1	......
76. Diseases of the ears	......	3	......	3	......
84. Diseases of the lymphatic system (lymphangitis, etc.)	......	6	......	6	......
89. Acute bronchitis	1	4	......	5	......
90. Chronic bronchitis	3	20	......	23	......
92. Pneumonia	1	......	......	1	......
96. Asthma	......	3	......	3	......
98. Other diseases of the respiratory system (tuberculosis excepted)	......	2	......	1	1
99. Diseases of the mouth and annexa	......	2	......	2	......
102. Ulcer of the stomach	......	1	......	1	......
103. Other diseases of the stomach (cancer excepted)	......	15	......	15	......
104. Diarrhœa and enteritis (under 2 years)	......	4	......	4	......
106. Ankylostomiasis	......	2	......	2	......
107. Intestinal parasites	......	10	......	10	......
108. Appendicitis and typhlitis	......	1	......	......	1
120. Bright's disease	......	11	1	9	1
123. Calculi of the urinary passages	......	1	......	......	1
127. Nonvenereal diseases of the male genital organs	......	3	......	2	1
139. Puerperal phlegmasia alba dolens, embolus, sudden death	......	2	......	1	1
143. Furuncle	......	1	......	1	......
144. Acute abscess	......	24	......	24	......
145. Other diseases of the skin and annexa	......	33	......	33	......
146. Diseases of the bones (tuberculosis excepted)	......	2	......	2	......
147. Diaseases of the joints (tuberculosis and rheumatism excepted)	......	2	......	2	......
149. Other diseases of the organs of locomotion	......	3	......	3	......
165. Other acute poisonings	......	6	......	6	......
167. Burns (conflagration excepted)	1	3	......	4	......
171. Traumatism by cutting of piercing instruments	2	51	......	53	......
185. Fractures (causes not specified)	......	1	......	......	1
186. Other external violence	1	38	......	39	......
189. Causes of death not specified ill-defined	......	79	......	69	10
Total	25	939	22	901	41

LABORATORY WORK.

EXAMINATION OF FACES.

Amœba histolytica	7
Ascaris	14
Balamtidium coli	6
Hook-worm	23
Trichomonas intestinalis	13
Trichuris	91
Negative	144
Total	298

EXAMINATION OF BLOOD.

Malaria	233
D. W. L. count	7
Red cells count	6
White cells count	8
Negative	258
Total	512

EXAMINATION OF SPUTUM.

Positive for T. B	17
Negative for T. B	345
Total	362

EXAMINATION OF URINE.

Albumen	7
Casts	6
Sugar	1
Pus	1
Calcium carbonate crystals	4
Calcium oxalate crystals	45
Epithelial cells	24
Uric acid crystals	62
Negative	172
Triple phosphate crystals	1
Total	323

SURGICAL WORK.

Major operations	1
Minor operations	66
Dressings	5,649
Total	5,716

SAN LAZARO HOSPITAL.

INSANE DEPARTMENT.

Status.	Americans.		Europeans.		Filipinos.		Chinese.		Others.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
In hospital at last year	7	......	13	3	264	110	3	....	3	1	404
Admitted	40	2	6	1	189	96	3	2	3	2	294
Discharged	34	2	4	......	106	62	5	2	3	2	220
Transferred	......	......	......	......	9	2	....	....	....	....	11
Escaped	......	......	......	......	......	......	....	....	....	....	......
Died	3	......	3	......	26	19	....	....	....	....	51
Remaining	10	......	12	4	262	123	1	....	3	1	416

LEPER DEPARTMENT.

Status.	Americans.		Europeans.		Filipinos.		Chinese.		Others.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
In hospital at last year	2	......	......	......	85	34	1	....	....	....	122
Admitted	2	......	......	......	195	110	8	....	....	....	315
Discharged	1	......	......	......	32	30	8	....	....	....	71
Transferred	......	......	......	......	133	74	1	....	....	....	208
Escaped	......	......	......	......	1	......	....	....	....	....	1
Died	1	......	......	......	4	4	....	....	....	....	9
Remaining	2	......	......	......	110	36	....	....	....	....	148

SAN LAZARO HOSPITAL—Continued.

HOSPITAL CASES.

Diseases	Remaining at last report.	Admitted.	Died.	Escaped.	Transferred.	Discharged.	Remaining.
Anthrax	......	2	1	......	......	1	......
Beriberi	......	1	......	......	......	......	1
Broncho-pneumonia	......	7	3	......	......	4	......
Cancer	......	5	......	......	......	4	1
Cholera	4	104	10	......	......	97	1
Cholera vibrio carriers	2	46	......	......	......	48	......
Diphtheria	1	76	17	......	......	59	1
Diphtheria carriers	3	28	......	......	......	31	......
Dysentery	1	133	28	......	......	103	3
Eczema	......	1	......	......	......	1	......
Erisipelas	......	1	1	......	......	......	......
Eruptive fever ? observation	......	1	......	......	......	1	......
Gonorrhea	4	250	......	......	......	217	37
Hydrophobia	......	3	3	......	......	......	......
Impetigus	......	2	......	......	......	2	......
Influenza	......	78	2	......	......	73	3
Insanity	404	297	50	1	......	234	416
Leprosy	122	315	9	3	277	......	148
Malaria	......	27	......	......	......	26	1
Measles	......	272	5	......	......	266	1
Mumps	......	47	......	......	......	47	......
Neuritis	......	1	......	......	......	1	......
Old age or invalidity	50	53	29	......	......	34	40
Paratyphoid fever	......	3	......	......	......	......	3
Phemphigus	......	1	......	......	......	1	......
Plague ? observation	......	1	......	......	......	1	......
Pneumonia	......	2	......	......	......	2	......
Rheumatism	......	1	......	......	......	1	......
Scabies	1	......	......	......	......	1	......
Scarlet fever	......	1	......	......	......	1	......
Smallpox	......	13	3	......	......	10	......
Syphilis	2	19	1	......	......	16	4
Tetanus	......	72	39	......	......	33	......
Tuberculosis	44	396	174	......	......	202	64
Typhoid fever	4	176	52	......	......	110	18
Urticaria	......	2	......	......	......	2	......
Varicella	2	330	......	......	......	327	5
Whooping cough	......	2	1	......	......	1	......
Yaws	......	10	......	......	......	10	......
Total	644	2,779	428	4	277	1,967	747

PATIENTS CLASSIFIED BY NATIONALITIES.

When admitted.	Americans.		Europeans.		Filipinos.		Chinese.		Others.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
During 1919	10	......	14	4	409	197	5	...	4	1	644
During 1920	65	13	22	5	1,514	1,099	35	7	11	8	2,779
Total	75	13	36	9	1,923	1,296	40	7	15	9	3,423

CHOLERA CASES FROM THE PROVINCES TREATED IN SAN LAZARO HOSPITAL.

Provinces.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Bulacan:													
City Boys' Reformatory	....	....	....	....	....	6	1	....	....	....	....	....	7
Hagonoy	1	1	....	....	....	1	....	....	....	....	....	....	3
Paombong	....	....	....	....	....	....	....	....	1	....	....	....	1
Rizal:													
Malabon	....	....	....	....	....	....	....	1	....	....	....	....	1
Maypajo	....	....	....	....	....	1	....	....	....	....	....	....	1
Navotas	....	....	....	....	....	....	....	1	....	....	....	....	1
Parañaque	....	....	....	....	....	1	....	....	....	....	....	....	1
Pasay	4	....	....	....	1	1	....	....	....	....	....	....	6
San Juan del Monte	1	....	....	....	....	2	....	2	....	....	....	....	5
Tayabas:													
Calawag	....	....	....	....	....	....	1	....	....	....	....	....	1
From other provinces, found on board by Quarantine Service	....	....	2	....	1	....	1	....	....	....	....	....	4
Total	6	1	2	....	2	12	3	4	1	....	....	....	31

OUTSIDE PATIENTS TREATED IN SAN LAZARO HOSPITAL.

Months of 1920.	Diseases.						total.		Grand total.
	Gonorrhea.		Syphilis.		Other genito-urinary diseases.				
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
January	9	4	1	......	......	18	10	22	32
February	5	10	......	......	......	14	5	24	29
March	8	9	......	......	......	13	8	22	30
April	4	34	2	......	......	16	6	50	56
May	5	28	......	......	1	12	6	40	46
June	1	34	1	1	......	8	2	43	45
July	5	24	......	1	......	18	5	43	48
August	5	42	......	2	......	12	5	56	61
September	6	46	......	1	......	18	6	65	71
October	6	43	......	......	1	16	7	59	66
November	3	46	......	......	......	8	3	54	57
December	3	19	......	......	......	5	3	24	27
Total	60	339	4	5	2	158	66	502	568

NUMBER OF PRESCRIPTIONS PREPARED IN THE DISPENSARY OF SAN LAZARO HOSPITAL DURING THE YEAR, 1920.

Month.	Hospital prescriptions.	Charity prescriptions.	Total.	Average number per day.
January	62	416	478	15.45
February	40	349	389	13.41
March	44	311	355	11.45
April	38	413	451	15.00
May	47	479	526	16.96
June	86	505	591	19.70
July	89	512	601	19.35
August	59	515	574	18.53
September	74	554	628	20.93
October	56	524	580	18.71
November	63	490	553	18.43
December	74	292	366	11.80
Total	732	5,360	6,092	16.65

REMARKS: Many of the prescriptions in the above Table were often times asked to be refilled. Throughout the year, every day, medicine-containers were brought to the Pharmacy to be refilled with different pharmaceutical preparations and different kinds of medicines.

MARRIAGES IN THE PROVINCES FOR THE CALENDAR YEAR 1920.

Provinces.	Total marriages.	Nationality.						Single males married.			Widowed males married.			Divorced males married.			Nationality of brides.						Relationship.	
								Females.			Females.			Females										
		Americans.	Filipinos.	Other Europeans.	Chinese.	Other Asiatics.	Other Nationalities.	Single.	Widowed.	Divorced.	Single.	Widowed.	Divorced.	Single.	Widowed.	Divorced.	Americans.	Filipinos.	Other Europeans.	Chinese.	Other Asiatics.	Other nationalities.	Blood.	Affinity.
Abra	389	...	389	...	...	...	...	315	11	...	31	32	...	...	...	...	...	389	...	...	...	...	...	...
Albay	1,241	...	1,231	1	9	...	...	1,019	71	...	83	68	...	...	...	...	...	1,231	1	9	...	...	...	...
Antique	1,208	...	1,208	...	...	...	...	1,014	46	...	98	48	2	...	...	...	...	1,208	...	...	...	...	...	...
Bataan	621	...	621	...	...	...	...	440	45	3	52	67	...	11	2	1	...	621	...	...	...	...	40	...
Batanes	49	...	49	...	...	...	...	29	2	...	12	6	...	...	...	...	...	49	...	...	...	...	...	...
Batangas	2,792	...	2,792	...	...	...	...	2,220	98	90	270	114	...	...	...	...	...	2,792	...	...	...	...	...	...
Bohol	3,297	...	3,297	...	...	...	...	2,876	85	...	235	101	...	...	...	...	...	3,297	...	...	...	...	...	...
Bulacan	2,742	...	2,741	...	1	...	...	2,174	101	...	280	187	...	...	...	...	...	2,741	...	1	...	...	...	...
Cagayan	1,645	1	1,637	...	6	1	...	1,380	54	...	106	105	...	...	...	...	1	1,637	...	6	1	...	...	...
Camarines Norte	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Camarines Sur	1,744	...	1,742	...	2	...	...	1,255	183	...	159	147	...	...	...	...	...	1,744	...	...	...	...	...	1,744
Capiz	1,626	...	1,626	...	...	...	...	1,256	87	...	171	112	...	...	...	...	...	1,626	...	...	...	...	...	...
Catanduanes	389	...	389	...	...	...	...	327	19	...	29	14	...	...	...	...	...	389	...	...	...	...	...	...
Cavite	1,161	3	1,158	...	...	...	...	909	48	...	118	86	...	...	...	...	3	1,158	...	...	...	...	...	...
Cebu	7,830	...	7,830	...	...	...	...	6,894	301	...	490	145	...	...	...	...	...	7,830	...	...	...	...	...	...
Ilocos Norte	1,487	...	1,487	...	...	...	...	1,211	81	4	145	46	...	...	...	...	...	1,487	...	...	...	...	...	...
Ilocos Sur	1,425	...	1,425	...	...	...	...	1,234	89	...	64	38	...	...	...	...	...	1,425	...	...	...	...	...	...
Iloilo	3,290	1	3,276	4	8	...	1	2,840	127	...	224	99	...	...	...	...	...	3,290	...	...	...	...	...	...
Isabela	917	2	910	...	5	...	...	765	43	...	49	59	...	1	...	...	2	910	...	5	...	...	...	...
Laguna	1,885	3	1,877	...	2	1	2	1,367	104	...	200	212	2	...	...	...	3	1,877	...	2	1	2	...	...
Leyte	5,392	...	5,381	...	11	...	...	3,943	230	1	597	613	3	5	...	...	...	5,381	...	11	...	...	...	...
Marinduque	489	...	489	...	...	...	...	387	21	...	48	33	...	...	...	...	...	489	...	...	...	...	...	...
Masbate	605	2	599	...	4	...	...	564	3	...	18	20	...	...	...	...	2	599	...	4	...	...	...	...
Mindoro	556	...	556	...	...	...	...	391	74	...	66	25	...	...	...	...	...	556	...	...	...	...	...	...
Nueva Ecija	2,174	...	2,174	...	...	...	...	1,791	113	...	176	94	...	...	...	...	...	2,174	...	...	...	...	...	...
Nueva Vizcaya	321	...	321	...	...	...	...	253	22	...	17	29	...	...	...	...	...	321	...	...	...	...	...	...
Occidental Negros	3,314	3	3,309	1	...	...	1	3,019	98	...	130	67	...	...	...	...	3	3,309	1	...	...	1	...	...
Oriental Negros	2,094	...	2,092	1	1	...	...	1,893	67	...	48	86	...	...	...	...	...	2,092	1	1	...	...	...	...
Palawan	279	...	276	1	...	2	...	195	31	1	28	23	...	1	...	...	...	276	1	...	2	...	...	...
Pampanga	2,687	22	2,663	...	2	...	...	2,197	110	13	232	135	...	...	...	...	22	2,663	...	2	...	...	...	...
Pangasinan	4,463	...	4,452	...	8	1	2	3,395	195	...	486	385	1	1	...	...	...	4,452	...	8	1	2	...	...

Rizal	2,416	27	2,384	....	5	....	....	1,223	97	....	923	173	....	....	....	....	27	2,384	....	5	....	....	....	......
Romblon	499	....	499	....	....	....	....	423	19	14	31	12	....	....	....	....	....	499	....	....	....	....	....	......
Samar	2,797	1	2,786	....	9	1	....	2,344	130	....	179	143	....	1	....	....	1	2,786	....	9	1	....	....	......
Sorsogon	1,054	....	1,048	....	5	1	....	952	31	....	44	27	....	....	....	....	....	1,048	....	5	1	....	....	......
Tarlac	1,743	....	1,743	....	....	....	....	1,461	38	....	147	97	....	....	....	....	....	1,743	....	....	....	....	....	......
Tayabas	2,465	....	2,465	....	....	....	....	1,811	282	5	183	175	8	1	....	....	....	2,465	....	....	....	....	....	......
Union	933	....	933	....	....	....	....	778	45	....	44	66	....	....	....	....	....	933	....	....	....	....	....	......
Zambales	567	9	549	7	....	....	2	469	14	....	46	38	....	....	....	....	9	549	7	....	....	2	....	......
Total	70,586	74	70,404	15	78	7	8	57,014	3,215	131	6,259	3,927	16	21	2	1	73	70,420	11	68	7	7	40	1,744

GENERAL RETURN OF BIRTHS AND DEATHS IN THE VARIOUS PROVINCES OF THE PHILIPPINE ISLANDS DURING THE CALENDAR YEAR 1920.

Provinces.	Estimated population.	Number of births.	Annual birth rate per 1,000.	Deaths.						
				Under 30 days.	30 days to under 1 year.	1 year to under 2 years.	2 years to 4 years.	5 years to 9 years.	10 years to 14 years.	15 years to 19 years.
Abra	63,924	2,395	37.46	77	168	96	132	67	38	37
Albay	263,767	8,176	30.99	426	887	633	1,015	626	249	239
Antique	156,539	5,234	33.43	213	366	266	430	310	84	83
Bataan	58,011	2,147	37.01	269	356	99	139	84	25	43
Batanes	8,214	268	32.62	18	12	9	6	3	4	6
Batangas	347,944	14,331	41.18	1,188	1,594	860	1,013	567	219	235
Bohol	368,195	16,115	43.76	772	934	438	523	318	104	143
Bulacan	254,346	9,920	39.00	902	1,774	389	359	230	117	252
Cagayan	189,074	8,343	44.12	633	671	406	527	391	180	233
Camarines Norte	....	....	....	....	....	....	....	....	....	....
Camarines Sur	221,782	7,334	33.06	371	570	508	598	435	242	285
Capiz	289,500	7,641	26.39	417	760	541	574	552	238	326
Catanduanes	65,800	1,673	25.43	77	289	217	264	220	96	94
Cavite	159,493	5,196	32.57	523	831	282	336	178	67	112
Cebu	876,781	36,763	41.92	1,240	2,136	1,207	1,395	871	357	358
Ilocos Norte	221,307	8,456	36.20	458	491	239	275	169	87	116
Ilocos Sur	220,309	7,203	32.69	507	471	162	216	110	82	103
Iloilo	509,687	19,339	37.94	976	1,853	1,130	1,610	952	247	407
Isabela	113,417	4,088	36.04	291	353	240	285	230	111	127
Laguna	199,651	8,093	40.54	866	1,234	480	448	301	123	155
Leyte	617,906	23,914	38.70	704	1,865	909	805	629	302	304
Marinduque	57,371	2,589	45.12	137	171	76	101	90	37	39
Masbate	69,585	1,446	20.78	58	118	76	71	83	32	40
Mindoro	63,487	1,767	27.83	116	236	105	117	151	110	186
Nueva Ecija	234,867	7,920	33.72	943	1,329	418	381	264	125	186
Nueva Vizcaya	29,614	1,251	42.24	78	159	75	101	88	31	43
Occidental Negros	401,141	10,934	27.25	844	1,029	887	1,391	771	230	212
Oriental Negros	288,051	8,113	28.16	376	697	415	502	315	112	167
Palawan	47,621	969	20.34	32	48	37	51	43	17	31
Pampanga	259,194	11,217	43.27	1,095	1,905	536	467	292	96	187
Pangasinan	591,030	26,730	45.22	2,090	1,790	1,223	1,381	695	285	434
Rizal	234,621	8,110	34.56	747	1,219	431	383	214	89	166
Romblon	65,693	2,164	32.94	86	115	74	84	83	28	39
Samar	371,613	12,769	34.36	476	1,059	448	537	418	191	221
Sorsogon	183,879	4,991	27.14	327	634	459	603	539	245	219
Tarlac	171,574	8,019	46.73	713	867	273	339	243	88	141
Tayabas	215,527	8,347	38.80	684	1,311	441	483	327	146	267
Union	163,698	6,160	37.63	350	354	178	276	135	80	121
Zambales	82,456	2,968	35.99	198	211	186	220	107	26	67
Total	8,736,669	323,093	36.98	20,278	30,867	15,449	18,438	12,101	4,940	6,424

Provinces.	Deaths.										
	20 years to 29 years.	30 years to 39 years.	40 years to 49 years.	50 years to 59 years.	60 years to 69 years.	70 years to 79 years.	80 years to 89 years.	90 years to 99 years.	100 years and over.	Age unknown.	Total.
Abra	79	76	58	59	66	69	57	34	11	5	1,129
Albay	508	451	424	407	417	321	303	151	101	11	7,169
Antique	187	167	169	146	134	124	112	64	31	10	2,896
Bataan	103	108	96	96	85	55	34	18	7	....	1,617
Batanes	6	15	21	17	19	15	13	12	1	2	179
Batangas	246	272	446	432	423	399	304	373	151	3	8,725
Bohol	391	355	290	263	296	264	254	110	59	1	5,515
Bulacan	500	412	427	349	291	275	241	181	67	1	6,767
Cagayan	450	402	357	293	228	153	126	55	41	13	5,159
Camarines Norte	....	....	....	....	....	....	....	....	....	....	....
Camarines Sur	563	435	369	386	332	234	132	69	62	9	5,600
Capiz	384	341	341	326	254	211	229	155	106	17	5,772
Catanduanes	88	58	51	52	51	57	32	35	23	....	1,704
Cavite	239	239	201	188	187	153	131	72	46	3	3,788
Cebu	473	565	888	799	769	815	589	471	255	230	13,418
Ilocos Norte	231	226	243	234	247	252	189	86	47	5	3,595
Ilocos Sur	203	221	236	187	216	148	161	89	5	16	3,133
Iloilo	701	616	609	526	483	307	311	187	106	36	11,057
Isabela	276	224	245	190	146	78	53	22	19	2	2,892
Laguna	354	345	356	325	322	262	186	86	65	16	5,924
Leyte	637	571	522	549	610	360	225	118	63	94	9,267
Marinduque	94	100	97	64	65	29	31	13	7	7	1,158
Masbate	61	34	45	33	26	25	21	16	7	3	749
Mindoro	190	148	76	65	43	25	17	10	....	....	1,595
Nueva Ecija	298	277	283	260	195	152	127	76	86	7	5,407
Nueva Vizcaya	76	62	73	41	31	23	17	13	9	....	920
Occidental Negros	316	356	443	446	361	360	232	199	72	53	8,202
Oriental Negros	339	354	363	329	272	207	127	87	56	10	4,728
Palawan	60	60	47	41	26	32	11	5	3	13	557
Pampanga	187	198	366	390	337	305	229	227	140	74	7,031
Pangasinan	821	809	733	641	484	520	385	225	196	9	12,721
Rizal	299	322	361	314	280	215	222	158	94	40	5,554
Romblon	75	66	65	69	62	25	24	11	2	1	909
Samar	375	283	416	358	352	323	161	116	63	47	5,844
Sorsogon	330	324	336	344	324	233	214	146	120	64	5,461
Tarlac	282	255	217	181	132	133	97	79	45	5	4,090
Tayabas	447	492	378	334	291	215	176	89	65	12	6,158
Union	182	188	149	129	122	118	122	51	35	1	2,591
Zambales	121	117	111	80	65	58	48	18	25	6	1,664
Total	11,172	10,544	10,908	9,943	9,044	7,550	5,943	3,927	2,291	826	180,645

GENERAL RETURN OF BIRTHS AND DEATHS (WITH CAUSES) IN THE PROVINCES OF THE PHILIPPINE ISLANDS DURING THE CALENDAR YEAR 1920.

Causes of death.	Abra.	Albay.	Antique.	Bataan.	Batanes.	Batangas.
Typhoid fever	24	54	60	44		70
Malaria	353	1,086	208	123	15	1,756
Malarial cachexia	5	82	2		5	51
Smallpox		468	4			5
Measles	2	5	64	4		2
Scarlet fever		8				2
Whooping cough			13	16	2	25
Diphtheria and croup						1
Asiatic cholera		34	104			
Dysentery	73	386	357	91	24	599
Leprosy						7
Erysipelas		10	3	12		12
Anthrax	1	9	3			2
Rabies		4				3
Pellagra						
Beriberi	15	273	52	93		667
Tuberculosis of the lungs	162	805	543	242	19	724
Tuberculosis of other organs	8	35	25	8	13	51
Cancer and other malignant tumors	4	21	22	8	3	37
Meningitis, cerebrospinal epidemic		5				6
Cerebral hæmorrhage, appoplexy.,	9	11	11	5	4	37
Convulsions of infants under 5 years	117	1,061	286	264	23	810
Acute bronchitis	33	261	31	39	3	358
Diarrhœa and enterirtis:						
Under 2 years	8	124	63	29	4	264
2 years and over	13	146	90	31	6	157
Diseases of the puerperal state	18	94	37	25		132
Violence:						
Suicide		3	2	16		21
Not suicide	6	36	61	16		41
Homicide	3	1	2			10
All other causes of death	275	2,147	853	551	58	2,875
Total	1,129	7,169	2,896	1,617	179	8,725
Number of males	588	3,820	1,511	873	94	4,455
Number of females	541	3,349	1,385	744	85	4,270
Annual death rate per 1,000	17.66	27.17	18.05	27.87	21.79	25.06
Classified report of all deaths occurring.						
Males:						
Married	170	954	344	175	32	937
Widowed	73	418	129	70	18	344
Divorced						
Single	53	481	112	88	17	287
Boys	292	1,965	895	539	19	2,887
Condition not stated		2	31	1	8	
Females:						
Married	117	624	321	172	26	863
Widowed	99	629	218	97	20	591
Divorced			2	1		
Single	39	394	115	41	9	267
Girls	285	1,700	711	433	26	2,549
Condition not stated	1	2	18		4	

GENERAL RETURN OF BIRTHS AND DEATHS (WITH CAUSES) IN THE PROVINCES OF THE PHILIPPINE ISLANDS DURING THE CALENDAR YEAR 1920—Ctd.

Causes of death.	Bohol.	Bulacan.	Cagayan.	Camarines Norte.	Camarines Sur.	Capiz.
Typhoid fever	7	191	23	....	50	137
Malaria	295	316	1,427	....	1,146	475
Malarial cachexia	2	9	59	....	....	43
Smallpox	146	....	28	....	298	530
Measles	8	....	1	....	4	49
Scarlet fever	1	....	....	....	1	14
Whooping cough	1	7	6	....	25	96
Diphtheria and croup	....	1	....	....	5	14
Asiatic cholera	3	....	373	....	302	....
Dysentery	25	95	143	....	361	339
Leprosy	....	....	2	....	....	4
Erysipelas	6	35	1	....	7	23
Anthrax	18	8	4	....	3	8
Rabies	2	5	4	....	2	....
Pellagra	....	....	....	....	1	....
Beriberi	344	902	152	....	221	187
Tuberculosis of the lungs	996	1,073	487	....	640	514
Tuberculosis of other organs	29	30	59	....	53	160
Cancer and other malignant tumors	20	34	19	....	22	21
Meningitis, cerebrospinal epidemic	....	3	....	....	....	2
Cerebral hæmorrhage, appoplexy	16	65	13	....	6	25
Convulsions of infants under 5 years	144	739	484	....	745	283
Acute bronchitis	238	333	260	....	83	188
Diarrhœa and enteritis:						
Under 2 years	340	74	67	....	36	63
2 years and over	134	47	55	....	71	75
Diseases of the puerperal state	93	53	78	....	97	85
Violent deaths:						
Suicide	20	2	4	....	4	12
Not suicide	66	57	54	....	28	71
Homicide	....	....	4	....	2	19
All other causes of death	2,561	2,688	1,352	....	1,387	2,335
Total	5,515	6,767	5,159	....	5,600	5,772
Number of males	2,915	3,629	2,771	....	2,978	2,993
Number of females	2,600	3,138	2,388	....	2,622	2,779
Annual death rate per 1,000	14.97	26.60	20.28	....	25.25	19.93
Classified report of all deaths occurring.						
Males:						
Married	684	847	736	....	824	607
Widowed	238	336	277	....	346	297
Divorced	....	....	....	....	....	....
Single	256	295	235	....	457	450
Boys	1,736	2,141	1,517	....	1,348	1,629
Condition not stated	1	10	6	....	3	10
Females:						
Married	614	753	577	....	677	546
Widowed	309	482	332	....	403	304
Divorced	2	....	....	....	....	....
Single	319	268	183	....	403	427
Girls	1,353	1,631	1,293	....	1,139	1,495
Condition not stated	3	4	4	....	....	7

GENERAL RETURN OF BIRTHS AND DEATHS (WITH CAUSES) IN THE PROVINCES OF THE PHILIPPINE ISLANDS DURING THE CALENDAR YEAR 1920—Ctd.

Causes of death.	Catanduanes.	Cavite.	Cebu.	Ilocos Norte.	Ilocos Sur.	Iloilo.
Typhoid fever		69	46	16	20	81
Malaria	48	327	488	805	330	999
Malarial cachexia		1	28		92	38
Smallpox	836		227			231
Measles		3	9			137
Scarlet fever						
Whooping cough	7	1	88	7	1	91
Diphtheria and croup	3					21
Asiatic cholera		1			1	
Dysentery	60	138	185	44	36	929
Leprosy			4		1	12
Erysipelas		15	38	1		22
Anthrax	1	1	14	3	11	4
Rabies		3		2	5	3
Pellagra			1			
Beriberi	72	325	1,197	143	79	181
Tuberculosis of the lungs	97	444	1,308	527	501	1,636
Tuberculosis of other organs	22	23	127	5	22	70
Cancer and other malignant tumors	6	30	88	17	19	66
Meningitis, cerebrospinal epidemic		9	3		1	13
Cerebral hæmorrhage appoplexy	1	26	39	12	13	31
Convulsions of infants under 5 years	91	703	571	425	352	2,423
Acute bronchitis	59	162	902	93	126	249
Diarrhœa and enteritis:						
Under 2 years	1	63	606	51	49	202
2 years and over	12	92	447	50	79	238
Diseases of the puerperal state	19	56	206	50	39	132
Violent deaths:						
Suicide		7	43	51	2	13
Not suicide	12	28	154	39	25	70
Homicide		3	19	3	4	8
All other causes of death	357	1,258	6,580	1,251	1,325	3,157
Total	1,704	3,788	13,418	3,595	3,133	11,057
Number of males	934	1,966	7,249	1,897	1,661	5,774
Number of females	770	1,822	6,169	1,698	1,472	5,283
Annual death rate per 1,000	25.90	23.75	15.30	16.24	14.22	21.69
Classified report of all deaths occurring.						
Males:						
Married	153	436	1,817	512	470	1,086
Widowed	70	170	662	271	210	507
Divorced		1				
Single	109	139	753	151	204	507
Boys	599	1,220	4,017	963	634	3,667
Condition not stated	3				143	7
Females:						
Married	132	414	1,459	401	398	1,006
Widowed	59	327	825	369	273	699
Divorced						
Single	61	84	696	171	187	369
Girls	518	997	3,189	756	546	3,201
Condition not stated				1	68	8

GENERAL RETURN OF BIRTHS AND DEATHS (WITH CAUSES) IN THE PROVINCES OF THE PHILIPPINE ISLANDS DURING THE CALENDAR YEAR 1920—Ctd.

Causes of death.	Isabela.	Laguna.	Leyte.	Marinduque.	Masbate.	Mindoro.
Typhoid fever	8	47	126	8	6	42
Malaria	1,115	1,387	1,503	254	141	405
Malarial cachexia	60	44	22	....	....	....
Smallpox	3	2	127	....	218	74
Measles	2	21	32	....	....	11
Scarlet fever	....	....	2	2	....	....
Whooping cough	11	2	36	3	4	3
Diphtheria and croup	....	1	8	....	....	1
Asiatic cholera	133	1	....	27	....	37
Dysentery	97	213	255	46	31	145
Leprosy	....	1	5	....	1	1
Erysipelas	....	19	16	2	....	1
Anthrax	1	4	14	1	....	....
Rabies	3	4	1	1	....	....
Pellagra	....	....	....	....	....	....
Beriberi	73	452	748	100	21	168
Tuberculosis of the lungs	299	544	1,212	213	50	144
Tuberculosis of other organs	25	49	293	4	4	26
Cancer and other malignant tumors	3	16	72	6	5	3
Meningitis, cerebrospinal epidemic	2	....	7	....	....	1
Cerebral hæmorrhage, apoplexy	3	42	23	1	1	1
Convulsions of infants under 5 years	187	428	555	18	96	76
Acute bronchitis	80	426	520	16	13	29
Diarrhœa and enteritis:						
Under 2 years	49	135	138	9	4	22
2 years and over	69	72	131	8	6	18
Diseases of the puerperal state	25	71	186	20	11	29
Violent deaths:						
Suicide	6	8	17	3	....	3
Not suicide	16	33	42	13	8	26
Homicide	2	8	16	1	3	....
All other causes of death	620	1,894	3,160	402	126	329
Total	2,892	5,924	9,267	1,158	749	1,595
Number of males	1,647	3,206	5,111	612	407	896
Number of females	1,245	2,718	4,156	546	342	699
Annual death rate per 1,000	25.49	29.67	14.99	20.18	10.76	25.12
Classified report of oll deaths occurring.						
Males:						
Married	469	811	1,033	165	90	202
Widowed	150	262	418	45	32	78
Divorced	....	4	14	....	....	....
Single	150	214	645	65	46	165
Boys	877	1,910	2,954	323	239	451
Condition not stated	1	5	47	14	....	....
Females:						
Married	340	615	995	158	71	181
Widowed	154	429	541	73	33	65
Divorced	....	4	5	....	....	....
Single	90	127	464	45	39	139
Girls	661	1,542	2,134	267	199	314
Condition not stated	....	1	17	3	....	....

GENERAL RETURN OF BIRTHS AND DEATHS (WITH CAUSES) IN THE PROVINCES OF THE PHILIPPINE ISLANDS DURING THE CALENDAR YEAR 1920—Ctd.

Causes of death.	Nueva Ecija.	Nueva Vizcaya.	Occidental Negros.	Oriental Negros.	Palawan.	Pampanga.
Typhoid fever	146	....	72	19	6	154
Malaria	950	250	1,311	1,200	87	532
Malarial cachexia	24	98	18	10	5	30
Smallpox	22	....	60	53	3	....
Measles	7	1	244	1	....	64
Scarlet fever	1	....	....	....	....	....
Whooping cough	9	....	128	140	1	13
Diphtheria and croup	2	2	5	1	....	1
Asiatic cholera	....	6	25	1	58	....
Dysentery	245	5	1,054	142	56	284
Leprosy	....	....	....	....	....	....
Erysipelas	3	2	6	35	1	10
Anthrax	1	....	7	19	1	10
Rabies	10	1	7	....	....	....
Pellagra	7	....	....	....	....	....
Beriberi	812	24	245	507	14	875
Tuberculosis of the lungs	651	40	777	384	59	937
Tuberculosis of other organs	35	3	97	52	3	26
Cancer and other malignant tumors	10	2	28	25	3	38
Meningitis, cerebrospinal epidemic	4	....	....	1	....	1
Cerebral hæmorrhage apoplexy	33	1	14	9	3	58
Convulsions of infants under 5 years	923	74	1,281	329	9	531
Acute bronchitis	247	62	171	262	10	310
Diarrhœa and enteritis:						
Under 2 years	36	4	216	118	7	98
2 years and over	19	11	284	158	18	76
Diseases of the puerperal state	104	22	101	50	9	99
Violent deaths:						
Suicide	6	1	4	14	2	5
Not suicide	60	6	67	25	11	48
Homicide	7	5	5	21	....	1
All other causes of deaths	1,033	300	1,975	1,152	191	2,830
Total	5,407	920	8,202	4,728	557	7,031
Number of males	2,952	511	4,346	2,574	268	3,759
Number of females	2,455	409	3,856	2,154	289	3,272
Annual death rate per 1,000	23.02	31.06	20.44	16.41	11.69	27.12
Classified report of all deaths occurring.						
Males:						
Married	542	125	837	686	84	783
Widowed	220	37	425	273	31	323
Divorced	....	....	....	4	....	....
Single	243	41	360	307	30	266
Boys	1,947	308	2,744	1,304	120	2,387
Condition not stated	....	....	....	....	3	....
Females:						
Married	431	105	709	498	91	662
Widowed	307	62	502	314	49	433
Divorced	....	....	....	1	1	1
Single	208	32	217	228	42	172
Girls	1,513	210	2,408	1,113	103	2,004
Condition not stated	1	....	....	....	3	....

GENERAL RETURN OF BIRTHS AND DEATHS (WITH CAUSES) IN THE PROVINCES OF THE PHILIPPINE ISLANDS DURING THE CALENDAR YEAR 1920—Ctd.

Causes of death.	Pangasinan.	Rizal.	Romblon.	Samar.	Sorsogon.
Typhoid fever	168	97	25	79	115
Malaria	2,945	271	156	1,411	504
Malarial cachexia	16	7	11	4	1
Smallpox	20	....	92	265	320
Measles	3	17	2	102	8
Scarlet fever	....	....	....	11	1
Whooping cough	45	8	1	272	20
Diptheria and croup	4	....	....	4	1
Asiatic cholera	7	....	....	71	....
Dysentery	723	152	27	399	298
Leprosy	1	1	....	4	2
Erysipelas	5	25	25	6	40
Anthrax	17	3	....	13	1
Rabies	11	3	....	2	2
Pellagra	....	....	....	....	....
Beriberi	370	651	45	294	245
Tuberculosis of the lungs	1,947	805	133	414	555
Tuberculosis of other organs	73	58	16	43	50
Cancer and other malignant tumors	47	40	1	26	26
Meningitis, cerebrospinal epidemic	2	....	....	....	....
Cerebral hæmorrhage, apoplexy	51	70	2	1	5
Convulsions of infants under 5 years	1,037	403	55	588	712
Acute bronchitis	734	298	2	269	198
Diarrhœa and enteritis:					
Under 2 years	344	173	23	31	22
2 years and over	149	115	6	47	48
Diseases of the puerperal state	175	37	19	129	56
Violent deaths:					
Suicide	24	14	5	7	4
Not suicide	116	45	7	51	25
Homicide	11	....	1	5	....
All other causes of death	3,676	2,261	255	1,296	2,202
Total	12,721	5,554	909	5,844	5,461
Number of males	6,693	3,015	479	3,130	2,980
Number of females	6,028	2,539	430	2,714	2,481
Annual death rate per 1,000	21.52	23.67	13.83	15.72	29.65
Classified report of all deaths occurring.					
Males:					
Married	1,598	713	140	858	749
Widowed	616	302	45	294	322
Divorced	1	1	....	6	....
Single	397	242	41	413	452
Boys	4,080	1,744	238	1,542	1,395
Condition not stated	1	13	15	17	62
Females:					
Married	1,488	588	105	758	590
Widowed	873	461	74	358	424
Divorced	....	....	1	11	....
Single	283	136	39	323	312
Girls	3,384	1,326	189	1,255	1,152
Condition not stated	....	28	22	9	3

GENERAL RETURN OF BIRTHS AND DEATHS (WITH CAUSES) IN THE PROVINCES OF THE PHILIPPINE ISLANDS DURING THE CALENDAR YEAR 1920—Ctd.

Causes of death.	Tarlac.	Tayabas.	Union.	Zambales.
Typhoid fever	184	88	58	37
Malaria	354	791	362	276
Malarial cachexia	9	87	2	2
Smallpox	101	17	11	1
Measles	4	2	1	
Scarlet fever		2	11	
Whooping cough	9	31	37	2
Diphtheria and croup		3		2
Asiatic cholera	1	3	1	
Dysentery	69	223	126	109
Leprosy	2	3		
Erysipelas	2	15		2
Anthrax	9	4	5	
Rabies	3	4	3	1
Pellagra	1	6		
Beriberi	459	499	173	121
Tuberculosis of the lungs	551	866	335	305
Tuberculosis of other organs	38	52	29	13
Cancer and other malignant tumors	9	22	17	6
Cerebral hæmorrhage apoplexy	8	23	11	2
Meningitis, cerebrospinal epidemic	13	[illegible]	4	
Convulsions of infants, under 5 years	564	302	115	260
Acute bronchitis	265	423	93	19
Diarrhœa and enteritis:				
Under 2 years	88	109	23	14
2 years and over	44	82	10	58
Diseases of the puerperal state	82	100	33	23
Violent deaths:				
Suicide	4	13	9	1
Not suicide	49	48	21	20
Homicide	2	1	2	
All other causes of death	1,176	2,326	1,099	392
Total	4,090	6,158	2,591	1,664
Number of males	2,226	3,201	1,336	889
Number of females	1,864	2,957	1,255	775
Annual death rate per 1,000	23.83	22.56	15.82	20.18
Classified report of all deaths occurring.				
Males:				
Married	460	820	330	248
Wodowed	195	257	117	75
Divorced				
Single	161	306	126	63
Boys	1,407	1,805	761	443
Condition not stated	3	13	2	60
Females:				
Married	406	793	326	168
Widowed	251	375	196	115
Divorced	1	1		
Single	90	200	121	56
Girls	1,116	1,587	610	376
Condition not stated		1	2	60

GENERAL SUMMARY OF DEATHS (WITH CAUSES).

Diseases.	Number.
Typhoid fever	2,377
Malaria	26,402
Malarial cachexia	865
Smallpox	4,162
Measles	810
Scarlet fever	56
Whooping cough	1,161
Diphtheria and croup	80
Asiatic cholera	1,189
Dysentery	8,584
Leprosy	51
Erysipelas	400
Anthrax	200
Rabies	89
Pellagra	16
Beriberi	11,799
Tuberculosis of the lungs	21,939
Tuberculosis of other organs	1,729
Cancer and other malignant tumors	842
Meningitis, cerebrospinal epidemic	80
Cerebral hæmorrhage apoplexy	686
Convulsions of infants under 5 years	18,064
Acute bronchitis	7,860
Diarrhœa and enteritis:	
Under 2 years	3,703
2 years and over	3,172
Diseases of the puerperal state	2,595
Violent deaths:	
Suicide	350
Violent deaths—Continued.	
Not suicide	1,501
Homicide	169
All other causes of death	59,714
Total	180,645
Number of males	96,366
Number of females	84,279
Annual death rate per 1,000	20.67
Summary of deaths by civil condition.	
Males:	
Married	22,527
Widowed	8,953
Divorced	31
Single	9,327
Boys	55,047
Condition not stated	481
Females:	
Married	19,178
Widowed	12,125
Divorced	31
Single	7,391
Girls	45,285
Condition not stated	269

BIRTH AND DEATH RATES IN THE PROVINCES, BY NATIONALITIES, FOR THE CALENDAR YEAR 1920.[a]

Nationality.	Estimated population.	Number of births.	Annual birth rate per 1,000.	Number of deaths.	Annual death rate per 1,000.
Americans	1,853	12	6.47	10	5.39
Filipinos	8,714,114	323,024	37.06	180,387	20.70
Europeans	1,987	5	2.51	18	9.05
Chinese	17,913	50	2.79	220	12.28
Other Asiatics	588	2	3.40	9	15.30
Other nationalities	214	....	....	1	4.67
Total and average	8,736,669	323,093	36.98	180,645	20.67

[a] Provinces of Mindanao, not included.

REPORT OF SICK AND WOUNDED POOR ATTENDED BY MUNICIPAL PHYSICIANS IN THE VARIOUS PROVINCES OF THE PHILIPPINE ISLANDS DURING THE CALENDAR YEAR 1920.

Provinces.	Indigent.		Constabulary.		Government employees.		Total.		Grand total.	Recoveries.		Deaths.		Total visits.
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.		Males.	Females.	Males.	Females.	
Abra	770	456	11		91	40	872	496	1,368	648	372	23	9	1,416
Albay	1,530	1,115	6		107	10	1,643	1,125	2,768	1,546	1,069	99	91	2,708
Antique	86	68	1				87	68	155	68	53		2	282
Bataan	451	251	9	1	51	3	511	255	766	377	178	12	13	423
Batanes	287	210	3		63	26	353	236	589	304	208	38	38	254
Batangas	1,426	665	16		45	17	1,487	682	2,169	1,374	679	17	9	3,188
Bohol							1,408	645	2,053	86	43	1		162
Bulacan	13,173	7,706	14		15		13,202	7,711	20,913	3,026	1,798	20	24	5,645
Cagayan	288	139	3		19		310	139	449	277	122	32	19	1,156
Camarines Norte														
Camarines Sur	93	54	2		21	2	116	56	172	114	54	2	2	228
Capiz							1,355	564	1,919	1,213	508	81	33	2,378
Catanduanes	136	93	3		17	4	156	97	253	142	90	6	1	412
Cavite	862	578	6		63	13	931	591	1,522	754	462	34	21	2,029
Cebu	264	96			8		272	96	368	112	4			132
Ilocos Norte	555	389	10		87	6	652	395	1,047	625	376	27	19	1,693
Ilocos Sur	560	375	1		28	3	589	378	967	555	360	33	19	2,341
Iloilo							1,196	707	1,903	1,074	605	122	102	2,888
Isabela	116	55	3		11	4	130	59	189	91	51	3	4	286
Laguna	981	717	18	1	113	8	1,112	726	1,838	1,020	672	23	28	1,231
Leyte	1,005	535	13		108	1	1,126	536	1,662	951	416	77	12	459
Marinduque	462	382	4		15		481	382	863	247	331	44	39	1,012
Masbate	39	25			1		40	25	65	39	25	1		51
Mindoro	1,244	589	46		464	84	1,754	673	2,427					248
Nueva Ecija	2,498	1,309	36		248	7	2,782	1,316	4,098	2,715	1,286	67	30	6,348
Nueva Vizcaya	1,187	907			12	6	1,199	913	2,112	1,110	854	89	59	1,901
Occidental Negros	3,497	1,672	23	1	168	70	3,688	1,743	5,431	1,350	615	14	4	2,673
Oriental Negros	839	340	2	1	151	18	992	359	1,351	927	342	17	7	1,569
Palawan	1,541	714	32		190	7	1,763	701	2,464	1,720	680	23	18	3,212
Pampanga	1,781	1,298	25	1	46	1	1,852	1,300	3,152	1,764	1,213	88	87	3,424
Pangasinan	2,322	1,046	35		99	8	2,456	1,054	3,510	1,405	483	25	15	4,211
Rizal	1,472	730	9		160	10	1,641	740	2,381	1,096	520	68	35	1,808
Romblon							45	22	67	56	64		1	284
Samar	1,779	917	4		98	7	1,881	924	2,805	1,776	852	110	68	3,428
Sorsogon	112	70	3		45	2	160	72	232	150	63	15	3	269
Tarlac	1,223	596	9		262	16	1,494	612	2,106	1,459	588	35	24	1,250
Tayabas	783	410	7		23		813	410	1,223	685	348	36	19	1,445
Union	341	256	3		13	1	357	257	614	325	243	11	5	1,308
Zambales	200	88	1		5	3	206	91	297	94	56	15	9	744
Total	43,901	24,851	358	5	2,847	377	51,112	27,156	78,268	31,275	16,683	1,308	869	64,496

MINDANAO AND SULU.

CONDENSED REPORTS.

	1920	1919	1918	1917	1916
Agusan.					
Estimated population	22,910	22,510	21,630	21,730	21,340
Deaths	377	484	854	609	367
Births	665	556	605	529	584
Marriages	228	308	170	225	306
Infant mortality (under 1 year)	124	161	218	124	108
Deaths without medical attendance	364	458	726	314	229
Death rate	16.45	21.50	39.48	28.02	17.20
Birth rate	29.03	24.70	27.97	24.34	27.37
Marriage rate	19.90	27.36	15.70	20.70	28.66
Infant mortality rate	186.47	289.57	360.33	230.40	184.93
Deaths without medical attendance rate	15.88	20.34	33.56	14.45	10.73
Bukidnon.					
Estimated population	25,159	25,196	25,299	25,245	no available data
Deaths	627	200	299	52	
Births	192	163	196	106	
Marriages	99	79	96	11	
Infant mortality (under 1 year)	25	8	6	3	
Deaths without medical attendance	589	195	283	49	
Death rate	24.92	7.93	11.81	2.05	
Birth rate	7.63	6.46	7.77	4.19	
Marriage rate	7.85	6.27	7.58	.87	
Deaths without medical attendance rate	23.41	7.73	11.18	1.94	
Infant mortality rate	130.21	49.08	30.61	28.30	
Cotabato.					
Estimated population	12,306	12,096	11,886	11,676	11,466
Deaths	153	141	278	126	93
Births	303	278	313	397	353
Marriages	83	60	64	131	86
Infant mortality (under 1 year)	37	38	76	44	30
Deaths without medical attendance	73	66	58	142	54
Deaths rate	12.43	11.65	23.38	10.79	8.11
Birth rate	24.62	22.98	26.33	34.00	30.78
Marriage rate	13.34	9.92	10.78	22.42	15.00
Infant mortality rate	122.11	136.69	243.13	110.83	84.98
Deaths without medical attendance rate	5.93	5.45	4.87	12.16	4.70
Davao.					
Estimated population	47,781	47,169	46,551	45,945	45,333
Deaths	750	1,987	1,472	1,097	1,079
Births	1,429	1,058	765	1,148	1,097
Marriages	367	373	277	357	365
Infant mortality (under 1 year)	188	219	238	113	98
Deaths without medical attendance	563	1,555	899	587	639
Death rate	15.91	40.02	31.62	21.69	23.78
Birth rate	29.95	22.43	16.43	24.96	24.19
Marriage rate	15.36	15.94	11.90	15.54	16.11
Infant mortality rate	250.66	110.21	163.04	103.00	90.82
Deaths without medical attendance rate	11.78	32.96	19.31	12.77	14.09

CONDENSED REPORTS—Continued.

	1920	1919	1918	1917	1916
Lanao.					
Estimated population	11,089	10,899	10,709	10,519	10,329
Deaths	177	150	383	105	828
Births	246	166	170	170	199
Marriages	68	47	89	118	89
Infant mortality (under 1 year)	43	33	55	30	27
Deaths without medical attendance	99	63	185	59	674
Death rate	15.96	13.76	35.76	9.98	80.16
Birth rate	22.17	15.23	15.87	16.16	19.25
Marriage rate	12.26	8.62	16.52	22.43	17.23
Infant mortality rate	176.42	198.79	323.52	176.47	135.67
Deaths without medical attendance rate	8.92	5.78	17.27	5.60	65.25
Misamis.					
Estimated population	204,024	200,534	197,084	193,614	190,144
Deaths	6,995	6,452	8,799	4,661	3,383
Births	9,017	6,937	7,349	7,429	7,269
Marriages	1,857	1,527	1,800	1,629	1,401
Infant mortality (under 1 year)	1,905	1,718	1,250	1,778	1,141
Deaths without medical attendance	5,629	6,266	8,605	4,481	3,318
Death rate	34.28	32.17	44.13	24.07	17.79
Birth rate	44.19	34.59	37.28	38.37	38.22
Marriage rate	18.23	15.22	18.26	16.82	14.73
Infant mortality rate	211.26	247.65	170.09	231.25	156.96
Deaths without medical attendance rate [a]	804.71	971.17	977.95	961.38	98.78
Sulu.					
Estimated population (Jolo and Siasi)	20,894	20,894	20,894	20,894	20,894
Deaths	139	170	237	244	495
Births	201	107	82	112	81
Marriages	54	17	5	24	70
Infant mortality (under 1 year)	46	58	85	78	107
Deaths without medical attendace	92	107	163	157	347
Death rate	6.65	8.13	10.24	11.24	23.21
Birth rate	9.63	5.12	3.98	5.36	3.87
Marriage rate	20.49	1.63	0.47	2.29	6.70
Infant mortality rate	228.85	542.05	1,036.5	696.42	1,320.90
Deaths without medical attendance rate	0.66	0.62	0.67	0.64	0.70
Surigao.					
Estimated population	122,614	118,601	93,838	94,312	93,991
Deaths	1,373	2,154	2,503	2,972	1,393
Births	2,421	2,131	1,857	2,451	2,581
Marriages	823	980	1,050	1,187	1,040
Infant mortality (under 1 year)	502	537	541	559	340
Deaths without medical attendance	522	1,200	1,118	2,500	1,380
Death rate	11.19	18.16	26.67	31.51	14.82
Birth rate	18.77	17.88	19.78	25.98	27.46
Marriage rate	13.42	16.52	22.36	25.16	22.12
Infant mortality rate	207.35	251.99	291.33	228.07	131.73
Deaths without medical attendance rate	4.25	10.11	11.91	26.50	14.68
Zamboanga.					
Estimated population	76,850	75,430	74,010	72,590	71,170
Deaths	743	1,368	1,272	1,411	1,125
Births	1,014	1,044	832	1,369	1,109
Marriages	522	553	557	659	427
Infant mortality (under 1 year)	240	391	436	513	449
Deaths without medical attendance	262	1,069	1,766	1,129	950
Death rate	9.66	18.13	17.18	19.43	15.80
Birth rate	13.33	13.84	11.57	18.85	15.58
Marriage rate	13.58	14.66	15.04	18.14	11.98
Infant mortality rate	236.68	374.52	524.03	374.72	404.86
Deaths without medical attendance rate	3.53	14.30	23.86	15.55	13.34

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[a] **Ratio to total deaths.**

DEATHS, BY AGE GROUPS.

	1920	1919	1918	1917	1916
Agusan.					
Under 30 days	50	62	62	49	56
30 days to under 1 year	74	99	156	75	52
1 year	28	39	50	65	34
2 years to 4 years	31	42	68	40	19
5 years to 9 years	30	33	67	47	15
10 years to 14 years	10	15	84	58	8
15 years to 19 years	13	22	54	57	23
20 years to 29 years	21	47	74	80	29
30 years to 39 years	24	27	66	55	30
40 years to 49 years	29	28	67	47	24
50 years to 59 years	19	15	37	12	24
60 years to 69 years	20	30	23	13	28
70 years to 79 years	9	13	23	2	12
80 years to 89 years	8	6	13	8	10
90 years to 99 years	7	3	6	1	3
100 years and over	2	3	4	....	....
Age not stated	2	....	....	....	....
Total	377	484	854	609	367
Bukidnon.					
Under 30 days	2	1	2	0	....
30 days to under 1 year	23	7	4	3	....
1 year	13	15	7	2	....
2 years to 4 years	30	16	20	5	....
5 years to 9 years	72	7	12	6	....
10 years to 14 years	78	9	9	1	....
15 years to 19 years	89	10	21	6	....
20 years to 29 years	128	39	68	9	....
30 years to 39 years	82	28	61	4	....
40 years to 49 years	50	27	49	6	....
50 years to 59 years	24	12	17	6	....
60 years to 69 years	16	16	19	3	....
70 years to 79 years	9	8	6	1	....
80 years to 89 years	6	1	4	0	....
90 years to 99 years	4	3	0	0	....
100 years to and over	0	0	0	0	....
Age not stated	1	1	0	0	....
Total	627	200	299	52	....
Cotabato.					
Under 30 years	11	8	25	17	12
30 days to under 1 year	26	30	51	27	18
1 year	21	16	38	12	11
2 years to 4 years	21	15	42	6	2
5 years to 9 years	11	6	24	3	5
10 years to 14 years	5	5	11	5	6
15 years to 19 years	5	4	17	7	1
20 years to 29 years	8	8	23	12	7
30 years to 39 years	11	18	15	9	9
40 years to 49 years	7	9	16	10	8
50 years to 59 years	10	7	3	8	2
60 years to 69 years	7	8	7	2	9
70 years to 79 years	6	3	2	2	1
80 years to 89 years	3	3	2	2	1
90 years to 99 years	0	1	0	1	0
100 years and over	1	0	1	1	0
Age not stated	0	0	1	2	1
Total	153	141	218	126	93
Davao.					
Under 30 days	51	72	72	37	35
30 days to under 1 year	102	172	166	76	63
1 year	35	96	88	62	36
2 years to 4 years	64	145	88	87	65
5 years to 9 years	57	107	77	55	44
10 years to 14 years	24	84	58	22	30
15 years to 19 years	46	156	111	45	39
20 years to 29 years	132	224	341	139	123
30 years to 39 years	69	212	146	120	105

DEATHS, BY AGES GROUPS—Continued.

	1920	1919	1918	1917	1916
Davao—Continued.					
40 years to 49 years	63	217	96	70	75
50 years to 59 years	26	152	50	43	51
60 years to 69 years	35	114	43	51	53
70 years to 79 years	16	74	21	20	13
80 years to 89 years	12	40	7	5	7
90 years to 99 years	8	26	3	7	7
100 years and over	5	6	3	2	4
Age not stated	5	2	102	256	329
Total	750	1,899	1,472	1,097	1,079
Lanao.					
Under 30 days	15	7	8	15	13
80 days to under 1 year	28	26	47	15	14
1 year	19	18	52	8	8
2 years to 4 years	17	16	46	9	22
5 years to 9 years	14	6	40	6	52
10 years to 14 years	6	1	53	4	37
15 years to 19 years	10	6	44	8	49
20 years to 29 years	21	19	34	6	108
30 years to 39 years	16	14	23	8	165
40 years to 49 years	12	8	17	8	260
50 years to 59 years	9	10	10	11	64
60 years to 69 years	3	10	5	4	22
70 years to 79 years	2	4	0	0	8
80 years to 89 years	5	4	2	1	1
90 years to 99 years	0	0	1	2	2
100 years and over	0	1	1	0	0
Age not stated	0	0	0	0	3
Total	177	150	383	105	828
Misamis.					
Under 30 days	495	508	670	738	499
30 days to under 1 year	940	1,249	2,101	1,040	642
1 year	714	534	714	380	250
2 years to 4 years	651	659	961	387	237
5 years to 9 years	774	732	730	301	214
10 years to 14 years	323	513	305	125	70
15 years to 19 years	284	236	348	152	143
20 years to 29 years	570	389	825	401	295
30 years to 39 years	307	330	647	354	244
40 years to 49 years	312	250	446	214	152
50 years to 59 years	206	269	253	184	178
60 years to 69 years	191	258	300	172	145
70 years to 79 years	126	207	146	84	121
80 years to 89 years	106	206	127	72	74
90 years to 99 years	70	72	56	26	51
100 years and over	33	34	62	29	22
Age not stated	17	6	8	2	16
Total	6,119	6,452	8,799	4,661	3,383
Sulu.					
Under 30 days	21	25	59	35	38
80 days to under 1 year	25	33	26	43	69
1 year	14	14	10	20	30
2 years to 4 years	7	8	16	13	32
5 years to 9 years	7	4	11	12	37
10 years to 14 years	3	8	10	12	34
15 years to 19 years	4	2	7	12	46
20 years to 29 years	15	18	30	37	92
30 years to 39 years	15	14	17	22	35
40 years to 49 years	5	16	17	11	38
50 years to 59 years	7	12	17	13	19
60 years to 69 years	5	8	7	8	10
70 years to 79 years	5	3	6	1	5
80 years to 89 years	3	3	4	4	5
90 years to 99 years	2	2	0	0	3
100 years and over	1	0	0	1	1
Age not stated	....	....	....	0	1
Total	139	170	237	244	495

DEATHS, BY AGE GROUPS—Continued.

	1920	1919	1918	1917	1916
Surigao.					
Under 30 days	281	300	208	199	135
30 days to under 1 year	221	237	323	360	205
1 year	62	248	240	253	135
2 years to 4 years	117	270	245	338	120
5 years to 9 years	83	204	317	343	105
10 years to 14 years	50	172	137	161	44
15 years to 19 years	44	140	167	197	83
20 years to 29 years	102	100	166	170	74
30 years to 39 years	71	90	153	210	115
40 years to 49 years	68	80	125	217	114
50 years to 59 years	52	81	117	156	86
60 years to 69 years	60	65	108	143	61
70 years to 79 years	36	52	78	124	71
80 years to 89 years	32	44	59	53	23
90 years to 99 years	26	31	30	30	12
100 years and over	19	28	25	12	7
Age not stated	49	12	5	6	3
Total	1,373	2,154	2,503	2,972	1,393
Zamboanga.					
Under 30 days	101	133	109	119	115
30 days to under 1 year	139	258	327	394	334
1 year	46	95	81	78	48
2 years to 4 years	60	144	93	99	67
5 years to 9 years	34	79	74	81	56
10 years to 14 years	15	51	34	30	22
15 years to 19 years	38	66	57	64	65
20 years to 29 years	77	155	114	137	127
30 years to 39 years	49	91	105	104	71
40 years to 49 years	44	77	70	87	56
50 years to 59 years	45	70	68	65	49
60 years to 69 years	36	55	52	57	47
70 years to 79 years	27	30	36	42	30
80 years to 89 years	19	23	25	25	20
90 years to 99 years	6	24	16	10	10
100 years and over	6	4	4	5	4
Age not stated	1	13	7	14	4
Total	743	1,368	1,272	1,411	1,125

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[a] In the condensed report table there is a total of 6,995 deaths while in this table (Deaths, by age groups) there is only 6,119. This is so because the quarterly reports of some municipalities have not yet been received and are not included to the total of the later while the former is complete for the whole year taken from form 67.

COMPARATIVE MARRIAGE RATE PER 1,000 POPULATION.

Province.	1920		1919		1918	
	Number of marriages.	Rate per 1,000 population.	Number of marriages.	Rate per 1,000 population.	Number of marriages.	Rate per 1,000 population.
Agusan	228	9.95	308	13.1	170	7.85
Bukidnon	99	7.86	79	6.27	96	7.58
Cotabato	83	13.34	60	9.92	64	10.76
Davao	367	15.36	373	15.94	277	11.9
Lanao	68	12.26	47	8.62	89	16.52
Misamis	1,857	18.23	1,527	15.56	1,835	18.44
Sulu	54	5.16	17	1.62	5	.46
Surigao	823	13.42	980	16.52	1,050	22.36
Zamboanga	522	13.58	553	14.66	557	15.04
Total	4,101	15.08	3,944	14.78	3,143	12.52

COMPARATIVE BIRTH RATE PER 1,000 POPULATION.

Province.	1920		1919		1918	
	Number of births.	Rate per 1,000 population.	Number of births.	Rate per 1,000 population.	Number of births.	Rate per 1,000 population.
Agusan	665	29.0	556	24.6	605	27.2
Bukidnon	192	7.63	163	6.46	196	7.77
Cotabato	303	24.62	278	22.98	313	26.33
Davao	1,429	29.95	1,058	20.3	765	16.43
Lanao	246	22.17	166	15.23	170	15.87
Misamis	9,017	44.19	6,937	35.35	7,469	37.53
Sulu	201	9.63	107	5.12	82	3.92
Surigao	2,421	18.77	2,131	17.88	1,857	19.78
Zamboanga	1,014	13.33	1,044	13.84	832	11.57
Total	15,488	28.67	12,440	23.32	12,289	24.48

COMPARATIVE DEATH RATE PER 1,000 POPULATION.

Province.	1920		1919		1918	
	Number of deaths.	Rate per 1,000 population.	Number of deaths.	Rate per 1,000 population.	Number of deaths.	Rate per 1,000 population.
Agusan	377	16.4	484	21.5	854	39.4
Bukidnon	627	24.92	200	7.93	299	11.86
Cotabato	153	12.43	141	11.65	278	23.38
Davao	750	15.91	1,987	40.02	1,472	31.62
Lanao	177	15.96	150	13.76	383	35.76
Misamis	6,995	34.28	6,452	30.29	8,799	44.13
Sulu	139	6.65	170	8.14	237	11.34
Surigao	1,373	11.19	2,154	18.16	2,503	26.67
Zamboanga	743	9.66	1,368	18.13	1,272	17.18
Total	11,334	20.84	13,106	24.57	16,097	32.07

COMPARATIVE INFANT MORTALITY RATE PER 1,000 BIRTHS.

Province.	Number of deaths under one year.		Number of births.		Rate.	
	1920	1919	1920	1919	1920	1919
Agusan	124	161	665	556	186.4	289.5
Bukidnon	25	8	192	163	130.2	49.07
Cotabato	37	38	303	278	122.11	136.69
Davao	188	219	1,429	1,058	250.66	110.21
Lanao	43	33	246	166	174.79	198.79
Misamis	1,905	1,718	9,017	6,937	211.26	247.65
Sulu	46	58	201	107	228.85	542.05
Surigao	502	537	2,421	2,131	207.43	251.99
Zamboanga	240	391	1,014	1,044	236.68	374.52
Total	3,110	3,163	15,488	12,440	200.80	254.25

INFANT MORTALITY.

Province.	1920					1919				
	Under 1 year.	1 year.	2 to 4 years.	Total.	Ratio to total mortality per 1,000	Under 1 year.	1 year.	2 to 4 years.	Total	Ratio to total mortality per 1,000.
Agusan	124	28	31	183	488.06	161	39	42	242	500.00
Bukidnon	25	13	30	68	108.45	8	15	16	39	195.00
Cotabato	37	21	21	79	516.32	38	16	15	69	489.36
Davao	188	44	66	298	397.33	219	144	151	514	258.68
Lanao	43	19	17	79	446.32	33	18	16	67	446.66
Misamis	1,905	588	837	3,330	476.05	1,718	533	573	2,824	437.76
Sulu	46	12	6	64	228.86	58	14	8	80	542.06
Surigao	502	63	117	682	495.99	537	239	264	1,040	482.22
Zamboanga	240	46	60	346	465.67	391	73	128	592	432.74
Total	3,110	834	1,185	5,129	452.53	3,163	1,091	1,213	5,467	417.13

MOST COMMON CAUSES OF MORTALITY DURING THE LAST FIVE YEARS.

Causes.	1920	1919	1918	1917	1916
Agusan.					
Convulsions	13	49	92	2	10
Simple meningitis	1	....	....	....	1
Congenital debility	20	7	....	15	17
Beriberi (adults)	4	13	18	16	27
Beriberi (infants)	....	1	....	....	....
Diarrhœa and enteritis under 2 years	....	14	6	12	1
Diarrhœa and enteritis over 2 years	6	7	....	....	....
Acute bronchitis	9	6	....	....	....
Malaria	127	155	187	94	142
Broncho-pneumonia	11	23	....	....	....
Cancer	1	1	....	....	....
Total	192	276	303	139	198
Bukidnon.					
Convulsions	3	3	1	1	....
Beriberi (adults)	4	2	22	1	....
Diarrhœa and enteritis under 2 years	6	....	....	....	....
Diarrhœa and enteritis over 2 years	5	....	....	....	....
Malaria	108	42	30	16	....
Total	126	47	53	18	....
Cotabato.					
Convulsions	3	3	3	3	....
Simple meningitis	2	....	1	3	1
Congenital debility	2	5	4	4	5
Beriberi (adults)	2	3	3	2	2
Beriberi (infants)	1	1	3	2	1
Diarrhœa and enteritis under 2 years	1	2	2	3	....
Diarrhœa and enteritis over 2 years	1	2	2	3	....
Acute bronchitis	1	7	2	7	....
Malaria	6	16	2	2	2
Broncho-pneumonia	20	9	5	4	2
Cancer	2	1	2	3	....
Total	41 ~~14~~	49	29	36	13
Davao.					
Convulsions	42	3	76	37	20
Simple meningitis	4	7	23	41	26
Congenital debility	38	19	7	8	3
Beriberi (adults)	42	70	73	24	10
Beriberi (infants)	29	46	35	7	5
Diarrhœa and enteritis over 2 years	17	36	17	22	19
Acute bronchitis	16	37	16	5	9
Malaria	222	504	256	168	203
Broncho-pneumonia	3	7	49	4	2
Cancer	....	2	....	2	....
Chronic bronchitis	6	4	7	11	8
Pnemonia	5	21	5	6	3
Acute abscess	7	6	6	3	....
Puerperal hæmorrhage	7	6	2	4	2
Total	438	768	572	342	310
Lanao.					
Convulsions	4	6	2	2	11
Simple meningitis	....	1	....	....	1
Congenital debility	5	....	2	7	5
Beriberi (adults)	3	....	2	3	....
Beriberi (infants)	3	3	1	3	....
Diarrhœa and enteritis under 2 years	7	4	9	7	20
Diarrhœa and enteritis over 2 years	1	7	3	4	12
Acute bronchitis	....	3	18	5	....
Malaria	16	32	24	10	8
Broncho-pneumonia	15	1	8	....	1
Cancer	1	....	....	....	....
Total	55	57	69	41	58

MOST COMMON CAUSES OF MORTALITY DURING THE LAST FIVE YEARS—Ctd.

Causes.	1920	1919	1918	1917	1916
Misamis.					
Convulsions	440	608	728	498	437
Simple meningitis	6	9	4	1	1
Congenital debility	172	180	294	230	120
Beriberi (adults)	272	371	759	201	175
Diarrhœa and enteritis under 2 years	37	26	129	98	57
Diarrhœa and enteritis over 2 years	34	115	158	107	169
Acute bronchitis	64	147	158	107	169
Malaria	127	1,469	1,295	810	669
Broncho-pneumonia	29	98	287	31	2
Cancer	30	59	60	15	26
Total	1,211	3,082	3,872	2,098	1,825
Sulu.					
Convulsions	2	25	72	71	35
Congenital debility	11	3	11	1	7
Beriberi (adults)	....	1	3	10	11
Beriberi (infants)	14	....	....	....	....
Diarrhœa and enteritis under 2 years	7	25	4	13	1
Diarrhœa and enteritis over 2 years	1	1	....	1	(a)
Acute bronchitis	2	....	12	1	9
Malaria	20	33	53	61	21
Broncho-pneumonia	9	5	7	7	(a)
Cancer	1	....	....	....	....
Homicide by cutting or piercing instrument	8	4	12	(a)	(a)
Pnumonia	....	....	5	(a)	(a)
Tuberculosis	14	13	12	22	(a)
Total	89 ~~68~~	110	191	187	84
Surigao.					
Convulsions	15	20	....	100	140
Simple meningitis	7	4	....	....	3
Congenital debility	82	50	62	61	49
Beriberi (adults)	29	78	46	50	28
Beriberi (infants)	29	....	57	22	10
Diarrhœa and enteritis under 2 years	33	22	22	50	17
Diarrhœa and enteritis over 2 years	23	22	17	25	10
Acute bronchitis	107	55	55	3	26
Malaria	112	279	186	241	254
Broncho-pneumonia	12	....	1	....	....
Cancer	1	4	6	4	....
Total	450	534	452	556	537
Zamboanga.					
Convulsions	49	124	141	126	45
Simple meningitis	5	7	15	13	11
Congenital debility	24	79	56	79	74
Beriberi (infants)	58	109	172	122	29
Diarrhœa and enteritis over 2 years	10	13	18	16	10
Acute bronchitis	31	21	36	65	43
Malaria	69	191	105	123	51
Broncho-pneumonia	12	86	52	26	26
Cancer	10	....	3	2	1
Total	268	630	598	572	290

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[a] No record.

Other table is given on the next page.

SUMMARY OF THE NUMBER OF DEATHS FROM OTHER COMMUNICABLE DISEASES.

Diseases.	1920	1919	1918	1917	1916
Agusan.					
Leprosy				1	
Measles				5	
Syphilis		1			
Tuberculosis of the lungs	25	28	31	20	17
Tuberculosis of other organs				7	3
Tetenus			4	1	
Whooping cough		1	32	4	
Influenza	2		275		
Pneumonia	33	7			
Total	60	37	342	38	20
Bukidnon.					
Measles	3				
Tuberculosis of the lungs	44				
Tuberculosis of other organs	8	5		5	
Whooping cough	1		2	1	
Influenza		38	172		
Pneumonia		6	3		
Total	56	49	177	6	
Cotabato.					
Cerebrospinal meningitis	2				2
Leprosy				2	1
Measles	11		2		
Syphilis	1				
Tuberculosis of the lungs	16	15	14	11	7
Tuberculosis of other organs	2	1	2	2	2
Tetanus	1	2	4	3	6
Whooping cough		5	22		1
Influenza	9	2	56		
Pneumonia	1		5	2	3
Total	43	25	105	20	22
Davao.					
Actinomycosis	1				
Anthrax		1	1	1	
Cerebrospinal meningitis	3	2	2	1	
Dengue			49	16	7
Measles					2
Scarlatina				1	
Syphilis		1	3		
Tuberculosis of the lungs	35	55	33	29	14
Tuberculosis of other organs	1	1	6	9	9
Tetanus	4	1	6	3	1
Whooping cough		6	2		3
Influenza		318			
Pneumonia	1	23			
Total	45	408	102	60	36
Lanao.					
Cerebrospinal meningitis					1
Measles	2				
Rabies		2		1	
Syphilis					1
Tuberculosis of the lungs	30	10	10	15	16
Tuberculosis of other organs		1	1		5
Tetanus	4		1	1	4
Whooping cough	5	3		1	1
Influenza		16			
Pneumonia	2				
Total	43	17	28	18	28

SUMMARY OF THE NUMBER OF DEATHS FROM OTHER COMMUNICABLE DISEASES—Continued.

Causes.	1920	1919	1918	1917	1916
Misamis.					
Anthrax	10	20	11	14	8
Diphtheria	1	8	4	1	1
Dengue			4		
Hookworm	28	1			
Leprosy				2	1
Measles	9	2	16	41	23
Rabies	2		1		1
Scarlatina		2			
Tuberculosis of the lungs	306	387	516	354	246
Tuberculosis of other organs	15	19	8	4	3
Tetanus	3	1	14	6	2
Trachoma	5				
Influenza	82	123	1,388	26	13
Pneumonia	5	46	54	7	
Total	466	609	2,016	455	238
Sulu.					
Cerebrospinal meningitis	1	1	1	1	2
Diphtheria					2
Measles					10
Tuberculosis of the lungs	14	13	12	22	21
Tuberculosis of other organs		1		1	1
Tetanus		1	1	1	
Whooping cough					1
Influenza			11		
Pneumonia			5		2
Total	15	16	30	25	39
Surigao.					
Anthrax		6	1		1
Diphtheria			3	5	
Dengue	1		142	4	
Filariasis				1	
Glanders	4				
Hookworm	5		1	3	13
Leprosy	4		1	1	
Measles	1				
Syphilis	1				
Tuberculosis of the lungs	97	78	75	46	33
Tuberculosis of other forms	12	23	15	17	13
Tetanus	46				
Trachoma	17				
Varioloid	1				
Whooping cough	10		12	40	46
Influenza	37	130	287		
Pneumonia	2	1			1
Total	389	819	574	117	107
Zamboanga.					
Anthrax		1	2	3	
Cerebrospinal meningitis		7	17	11	8
Diphtheria	2	2			1
Dengue			559	11	1
Hookworm		5	5		
Leprosy	1			1	
Rabies			2		3
Scarlatina			1		
Syphilis			3	1	3
Tuberculosis of the lungs	67	87	127	104	64
Tuberculosis of other organs	1	3	1		
Tetanus	2	1	2	1	3
Varioloid	1				
Whooping cough	5	3	3	7	25
Influenza	4				
Pneumonia	11				
Total	94	109	722	139	108

TABULATION SHOWING OUTBREAK OF SMALLPOX DURING 1920.

Months.	Agusan.		Bukidnon.		Cotabato.		Davao.		Lanao.		Misamis.		Sulu.		Surigao.		Zamboanga.		Total.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Coses.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
January	......	......	110	8	......	......	......	......	2	0	303	114	......	......	82	33	......	......	397	155
February	......	......	7	13	......	......	......	......	......	......	143	115	......	......	82	13	......	......	232	141
March	......	......	5	11	......	......	......	......	......	......	126	58	......	......	123	14	4	0	258	83
April	......	......	20	10	......	......	......	......	......	......	303	205	......	......	61	8	......	......	384	223
May	15	2	17	2	......	......	......	......	......	......	445	253	......	......	105	30	......	......	582	287
June	......	......	......	......	......	......	......	......	......	......	406	261	......	......	65	29	......	......	471	290
July	......	......	......	......	......	......	......	......	1	0	526	214	......	......	12	9	......	......	539	223
August	......	......	4	2	......	......	......	......	2	0	592	237	......	......	10	6	......	......	608	245
September	......	......	......	......	1	0	......	......	7	2	547	287	......	......	12	6	......	......	567	295
October	......	......	17	4	......	......	......	......	1	1	314	173	......	......	4	1	......	......	336	179
November	3	1	321	164	......	......	......	......	......	......	268	198	......	......	5	2	......	......	597	365
December	......	......	231	170	......	......	......	......	6	0	196	149	......	......	......	......	......	......	433	319
Total	18	3	732	384	1	0	......	......	19	3	4,069	2,264	......	......	561	151	4	0	5,404	2,805

DYSENTERY, 1920

Months.	Agusan.		Bukidnon.		Cotabato.		Davao.		Lanao.		Misamis.		Sulu.		Surigao.		Zamboanga.		Total.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
January	13	4	5	3	4	......	25	4	7	2	13	7	......	......	16	9	......	......	83	29
February	15	......	2	2	5	......	11	1	15	3	2	1	1	......	12	6	1	1	64	14
March	13	3	7	4	7	......	7	2	14	4	14	7	2	......	12	6	......	......	76	26
April	2	1	9	4	18	6	23	1	6	2	4	3	2	......	10	4	......	......	74	21
May	10	2	1	1	21	......	4	1	4	......	......	......	7	......	6	2	......	......	53	6
June	16	1	2	2	9	......	12	4	9	2	1	......	1	......	15	10	......	......	65	19
July	8	1	7	3	8	......	4	2	4	2	2	2	2	......	22	6	......	......	57	16
August	5	2	10	7	31	4	4	......	1	......	2	2	6	......	18	12	......	......	77	27
September	9	2	7	3	9	......	3	1	10	4	1	1	3	......	30	6	......	......	72	17
October	9	......	8	6	4	......	1	......	5	1	4	3	3	2	21	11	......	......	55	23
November	7	2	10	5	3	......	2	......	7	2	3	3	3	1	7	3	1	1	43	17
December	8	......	5	3	23	......	......	......	6	1	2	1	1	0	26	15	......	......	71	20
Total	115	18	73	43	142	10	96	16	88	23	48	30	31	3	195	90	2	2	790	235

DYSENTERY, BY MUNICIPALITIES.

	Cases.	Deaths.
Agusan:		
Butuan	99	18
Cabadbaran	1	....
Municipal district	15	....
Total	115	18
Bukidnon:		
Claveria	8	5
Impasugong	19	13
Malaybalay	21	13
Maramag	5	2
Maluco	10	4
Talacag	10	6
Total	73	43
Cotabato:		
Cotabato	64	....
Parang	20	....
Pagalungan	11	1
Ladtiñgan	8	....
Silik Peidu Pulangui	39	9
Total	142	10
Davao:		
Baganga	3	....
Caraga	7	6
Cateel	4	2
Davao	45	2
Santa Cruz	7	5
Pantucan	7	....
Sigaboy	1	....
Malita	4	....
Sang	10	....
Guianga	6	1
Samal	1	....
Tagum	1	....
Total	96	16
Lanao:		
Dansalan	23	3
Iligan	16	10
Malabang	11	1
Ganassi	2	1
Lumbatan	3	....
Tamparan	12	2
Momungan	8	2
Kolambugan	5	2
Ditzaan	7	2
Pantar	1	....
Total	88	23
Misamis:		
Aloran	14	5
Cagayan	9	9
Mambajao	1	1
Misamis	7	4
Oroquieta	14	9
Sagay	1	....
Tagoloan	2	2
Total	48	30
Sulu:		
Jolo	31	3

DYSENTERY, BY MUNICIPALITIES—Continued.

	Cases.	Deaths.
Surigao:		
Surigao	28	16
Placer	5	6
Dinagat	6	4
Lareto	10	7
Gigaquit	16	11
Bacuag	14	8
Dapa	3	3
Numancia	0	....
Gantilan	32	9
Carrascal	24	9
Lanuza	4	2
Tandag	30	10
Tago	5	2
Lianga	7	2
Hinatuan	11	1
Total	195	90
Zamboanga:		
Zamboanga	2	2

TYPHOID, 1920

Months.	Agusan.		Bukidnon.		Cotabato.		Davao.		Lanao.		Misamis.		Sulu.		Surigao.		Zamboanga.		Total.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
January	....	....	....	....	....	....	3	....	....	....	4	4	3	....	....	....	....	....	10	4
February	1	1	....	....	....	....	1	....	1	1	....	....	2	....	1	1	....	....	6	3
March	1	1	....	....	1	....	2	1	....	....	....	....	2	....	....	....	3	2	9	4
April	....	....	....	....	....	....	1	....	1	1	1	1	....	....	1	1	2	2	6	5
May	....	....	....	....	....	....	5	....	2	....	3	3	2	1	....	....	4	3	16	7
June	....	....	....	....	....	....	1	1	....	....	2	2	1	....	....	....	6	....	10	3
July	1	1	....	....	....	....	2	....	1	1	1	1	....	....	1	1	1	1	7	5
August	....	....	....	....	25	....	1	....	1	....	4	2	1	....	....	....	....	....	32	2
September	....	....	....	....	....	....	....	....	....	....	1	1	2	....	....	....	1	1	4	2
October	....	....	....	....	....	....	....	....	2	1	2	2	....	....	1	1	....	....	5	4
November	....	....	....	....	....	....	....	....	1	1	3	3	1	....	....	....	....	....	5	4
December	....	....	....	....	....	....	....	....	3	3	14	14	....	....	....	....	....	....	17	17
Total	3	3	....	....	26	....	16	2	12	8	35	33	14	1	4	4	17	9	127	60

TYPHOID, BY MUNICIPALITIES.

	Cases.	Deaths.
Agusan:		
Butuan	3	3
Cotabato:		
Cotabato	1	....
Ladtingan	1	....
Glan	24	....
Total	26	....
Davao:		
Caraga	2	1
Davao	10	....
Samal	1	....
Saug	1	....
Guianga	2	1
Total	16	2
Lanao:		
Dansalan	3	1
Iligan	8	6
Ditzaan	1	1
Total	12	8
Misamis:		
Aloran	1	1
Baliangao	2	2
Cagayan	3	3
Jimenez	4	4
Mambajao	2	2
Misamis	13	13
Oroquieta	1	1
Plaridel	3	3
Togoloan	2	2
Talisayan	4	2
Total	35	33
Sulu:		
Jolo	13	1
Siasi	1	....
Total	14	1
Surigao:		
Surigao	2	2
Dinagat	1	1
Cantilan	1	1
Total	4	4
Zamboanga:		
Zamboanga	17	9

VENEREAL DISEASES.

Province.	Syphilis.						Gonorrhœa.					
	1920		1919		1918		1920		1919		1918	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Agusan	....	....	....	....	....	....	3	0	....	....	....	....
Bukidnon	....	....	....	....	....	....	1	0	....	....	....	....
Cotabato	4	1	....	....	....	....	12	....	7	....	9	....
Davao	4	....	....	....	2	....	45	....	14	....	130	....
Lanao	20	....	10	....	8	....	24	....	36	....	20	....
Misamis	8	2	32	....	12	....	21	....	24	2	14	....
Sulu	32	....	17	....	13	....	87	....	67	....	69	....
Surigao	7	1	8	....	5	....	29	....	29	....	19	....
Zamboanga	8	....	4	....	1	....	18	....	16	1	5	....
Total	83	4	71	....	41	....	240	....	193	3	266	....

OTHER ERUPTIVE DISEASES.

Province.	Varioloid.				Varicella.				Measles.			
	1920		1919		1920		1919		1920		1919	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Agusan	2	....	....	....	12	....	80	....	8	....	....	....
Bukidnon	....	....	....	....	....	....	....	....	23	3	....	....
Cotabato	6	....	6	....	25	....	....	....	254	12	52	....
Davao	8	....	53	1	7	....	108	10	....	....	11	....
Lanao	14	....	8	....	....	....	....	....	100	7	12	....
Misamis	....	....	....	....	5	2	....	....	14	11	2	1
Sulu	....	....	....	....	....	....	4	....	....	....	2	....
Surigao	1	....	43	1	8	....	53	4	36	1	....	....
Zamboanga	4	2	32	6	10	....	7	....	4	....	16	....
Total	35	2	142	8	67	2	252	14	439	34	95	1

LEPERS.

Province.	1920			1919		
	Collected.	Sent to Culion.	Died in detention houses.	Collected.	Sent to Culion.	Died in detention houses.
Agusan	1	....	....	2	2	....
Bukidnon	....	....	....	....	....	....
Cotabato	12	9	[a]3	37	37	....
Davao	8	....	....	3	3	....
Lanao	3	....	....	14	14	....
Misamis	12	....	....	16	16	....
Sulu	5	5	....	11	11	....
Surigao	19	7	1	17	1	4
Zamboanga	9	7	[b]2	15	13	[c]2
Total	69	28	6	115	97	6

[a] Two escaped.

[b] Escaped.

[c] One escaped.

PUBLIC DISPENSARIES.

Province.	Number in charge of—			In operation during 1919.	Opened during 1920.	Closed during 1920.	In operation at the end of 1920.	Consultations.		Treatments.	
	Physicians.	Graduate nurses.	Non-graduate nurses.					Adults.	Infants.	Adults.	Infants.
Agusan	2	....	7	9	....	....	9	4,133	531	6,286	701
Bukidnon	....	....	7	6	1	....	7	823	369	5,921	2,772
Cotabato	....	4	13	13	4	....	17	20,931	2,057	61,141	7,232
Davao	3	3	4	15	....	5	10	4,801	653	14,526	1,345
Lanao	1	....	11	13	....	1	12	2,273	209	6,259	560
Misamis	4	....	13	15	2	....	17	4,123	1,487	7,647	3,867
Sulu	1	2	20	23	1	7	17	31,750	3,739	55,948	8,241
Surigao	4	....	7	11	3	....	14	353	113	266	48
Zamboanga	....	1	10	11	....	....	11	3,271	1,328	8,093	3,306
Total	15	10	92	116	11	13	114	72,458	10,486	166,087	28,072

INFANT WELFARE.

Province.	Number of Women's Club.		Number of puericultural centers.		Number of maternity wards.		Number of baby contest celebrated.	
	1919	1920	1919	1920	1919	1920	1919	1920
Agusan	1	1	......	......	......	1	......	......
Bukidnon	......	......	......	......	......	......	......	......
Cotabato	......	1	......	......	......	......	......	1
Davao	1	1	......	......	......	......	......	......
Lanao	......	......	......	......	......	......	......	......
Misamis	7	7	......	......	......	......	......	......
Sulu	1	1	......	......	1	1	......	......
Surigao	4	3	......	......	......	......	1	......
Zamboanga	5	5	1	1	......	......	1	......
Total	19	19	1	1	1	2	2	1

MORTALITY BY PUERPERAL STAGE.

Province.	1920	1919	1918	1917	1916
Agusan	5	3	4	4	8
Bukidnon	3	2	2	1	......
Cotabato	1	3	3	2	......
Davao	14	19	10	13	7
Lanao	7	7	2	2	2
Misamis	15	79	110	90	99
Sulu	3	1	3	4	3
Surigao	18	24	32	17	12
Zamboanga	10	24	35	32	20
Total	76	162	201	165	151

MEDICAL INSPECTION OF SCHOOLS.

Province.	Number of school inspected.	Number of pupils examined.	Diseases found.					
			Scabies.	Tonsils.	Conjunctivitis.	Pertussis.	Contagious skin diseases.	Contagious eye diseases.
Agusan	9	1,962	120	7	9	......	99	94
Bukidnon	18	1,715	15	......	10	......	26	......
Cotabato	2	212	20	26	1	......	33	12
Davao	51	2,861	20	39	7	......	58	14
Lanao	18	1,361	88	61	16	......	62	5
Misamis	49	4,372	33	42	139	......	12	1
Sulu [a]	1	76	......	5	12	......	33	6
Surigao	47	4,057	138	57	15	......	12	5
Zamboanga	23	3,604	92	8	39	......	35	69
Total	218	20,220	526	245	248	......	370	206

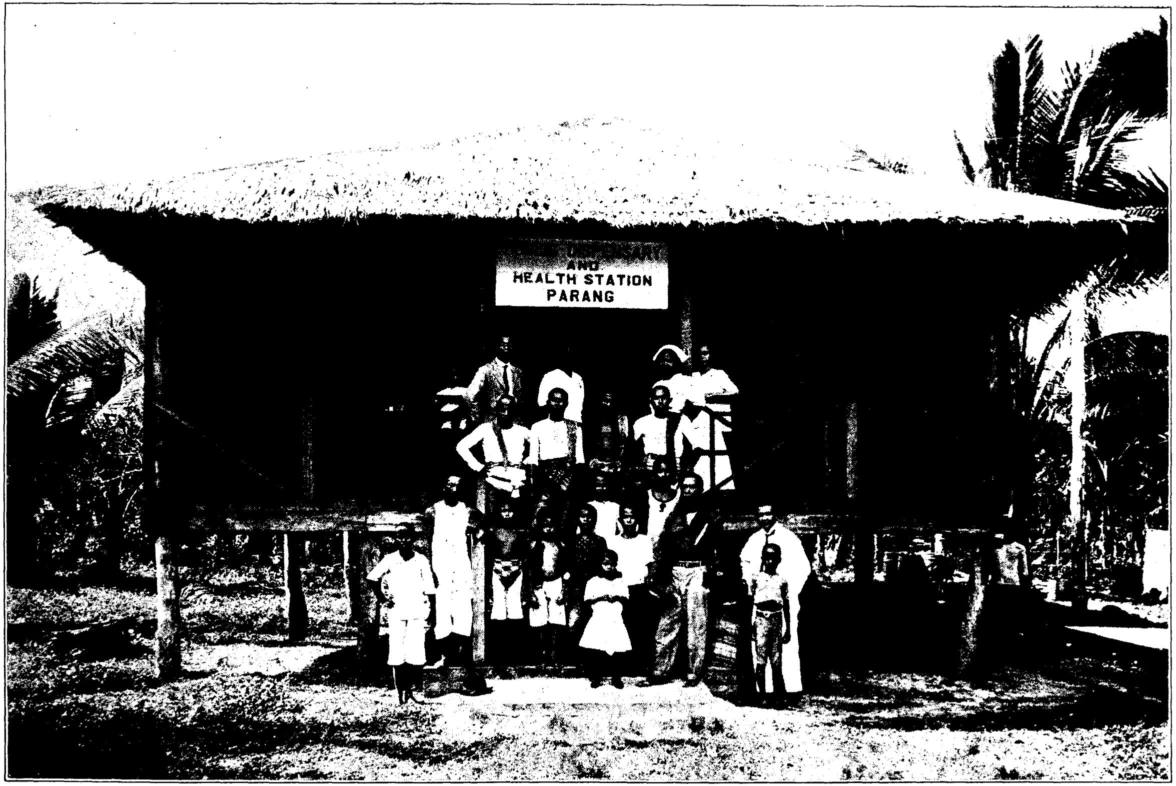
[a] Other findings: Carious teeth, 3; rhinitis, 1; staphyloma, 1; mitral insufficiency, 2; anemic, 2.

SEPTIC TANKS.

Province.	Private.			Public.			Grand total.
	1919	Built in 1920.	Total.	1919	Built in 1920.	Total.	
Agusan	......	......	......	......	......	......	......
Bukidnon	4	2	6	......	......	......	6
Cotabato	1	1	2	......	......	......	2
Davao	13	29	42	......	......	......	42
Lanao	3	......	3	......	......	......	3
Misamis	......	4,812	4,812	19	11	30	4,842
Sulu	1	......	1	......	......	......	1
Surigao	2	7	9	......	6	6	15
Zamboanga	50	27	77	2	......	2	79
Total	74	4,878	4,952	21	17	38	4,990

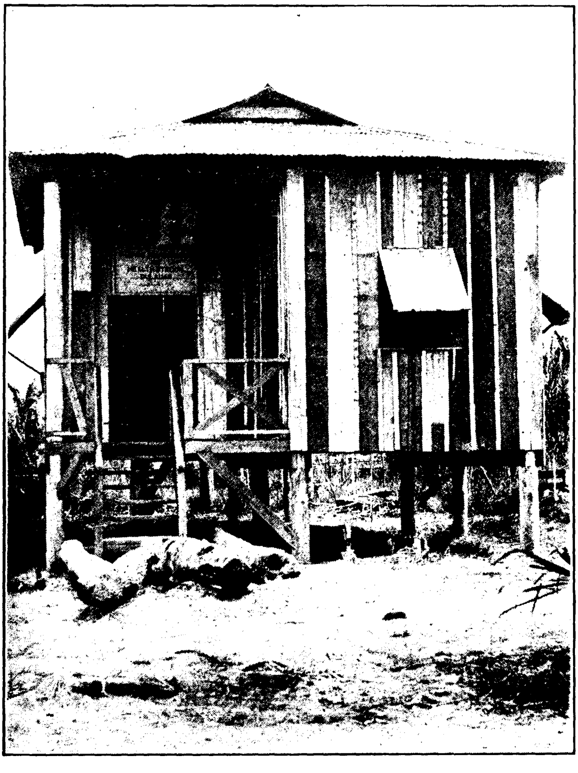
DISPOSAL OF EXCRETA.

Province.	Pail system.						Other system pits.	
	Private.			Public.				
	Number during 1919.	Number used during 1920.	Total.	Number during 1919.	Number used during 1920.	Total.	1919	1920
Agusan	58	37	37	6	6	6	271	303
Bukidnon	......	......	......	......	......	......	......	......
Cotabato	......	140	140	3	......	3	......	......
Davao	......	212	212	......	3	3	......	2,874
Lanao	307	307	614	......	......	......	......	......
Misamis	......	1,339	1,339	......	3	3	......	......
Sulu	95	140	235	2	2	2	......	......
Surigao	295	319	614	......	5	5	......	272
Zamboanga	346	85	431	26	26	26	......	......
Total	1,101	2,579	3,622	37	45	48	271	3,449

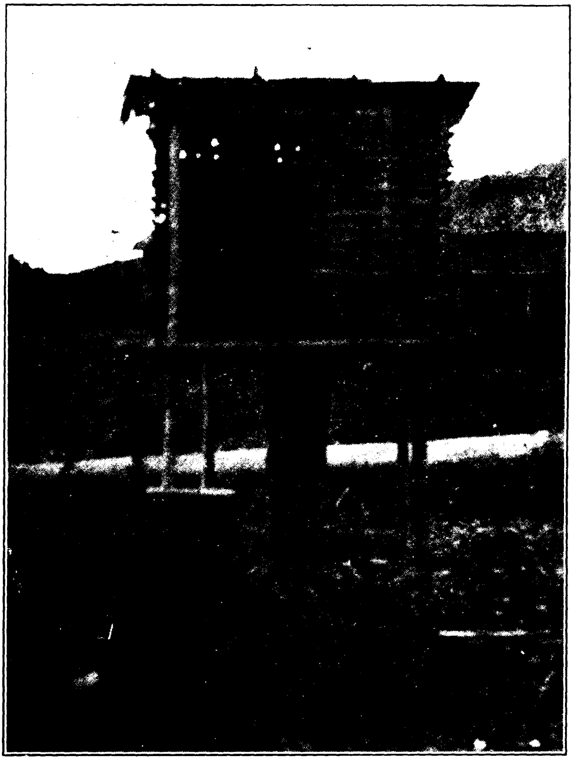


A type of public dispensary in the Province of Sulu.

Type of public dispensaries in the Province of Cotabato.



Type of public dispensaries in the Province of Cotabato.

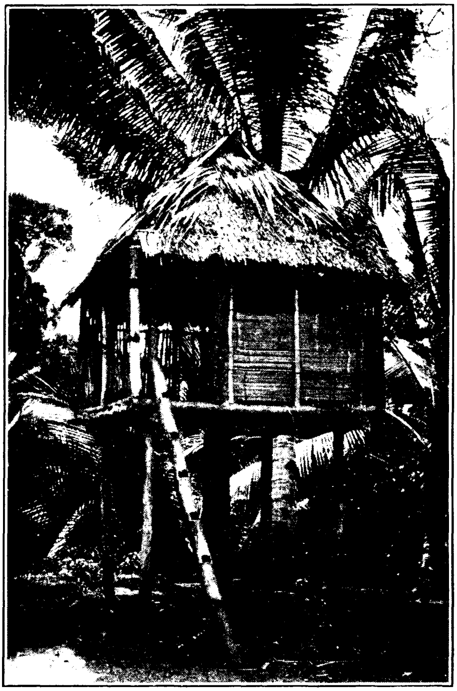


Type of modified Antipolo system of toilets in the Province of Agusan.

In the municipal district of Jabonga in the Southern part of Lake Mainit. Two days hike from Butuan.

Type of modified Antipolo system of toilets in the Province of Agusan.

In the municipal district of Bunawan in the provincial division of Simulao, three day's trip by launch from Butuan.



Type of modified Antipolo system of toilets in the Province of Agusan.

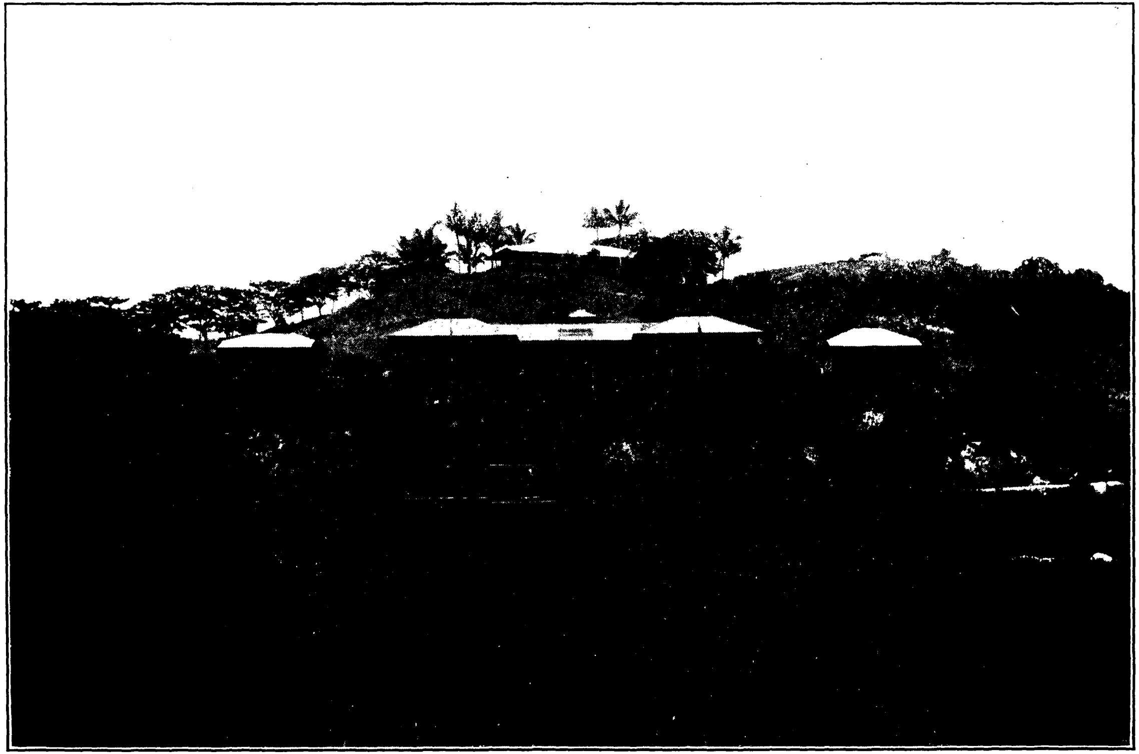
In the municipal district of Guadalupe in the provincial division of Waw a Ojot.

The above-named municipal district is inhabited by Manobos.

REMARKS.—Receiving pipe is made of entire piece of palma brava-tree or hollowed logs; top cover of the pit is of one-piece round lumber; vent pipe, is of bamboo tree.

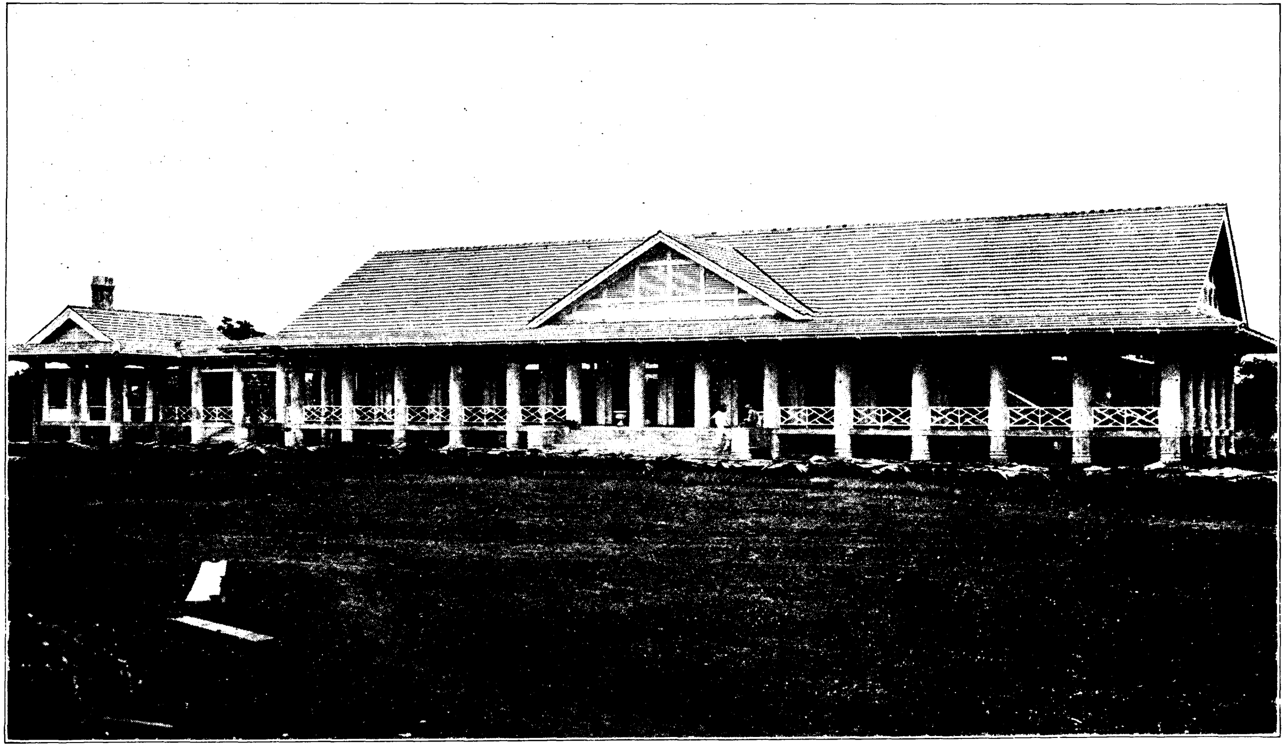
Butuan Public Hospital, Butuan, Agusan.

Inaugurated December 12, 1920. Capacity: 40 patients. Provided with laboratory. The old hospital is of mixed materials and has a capacity of 12 patients.



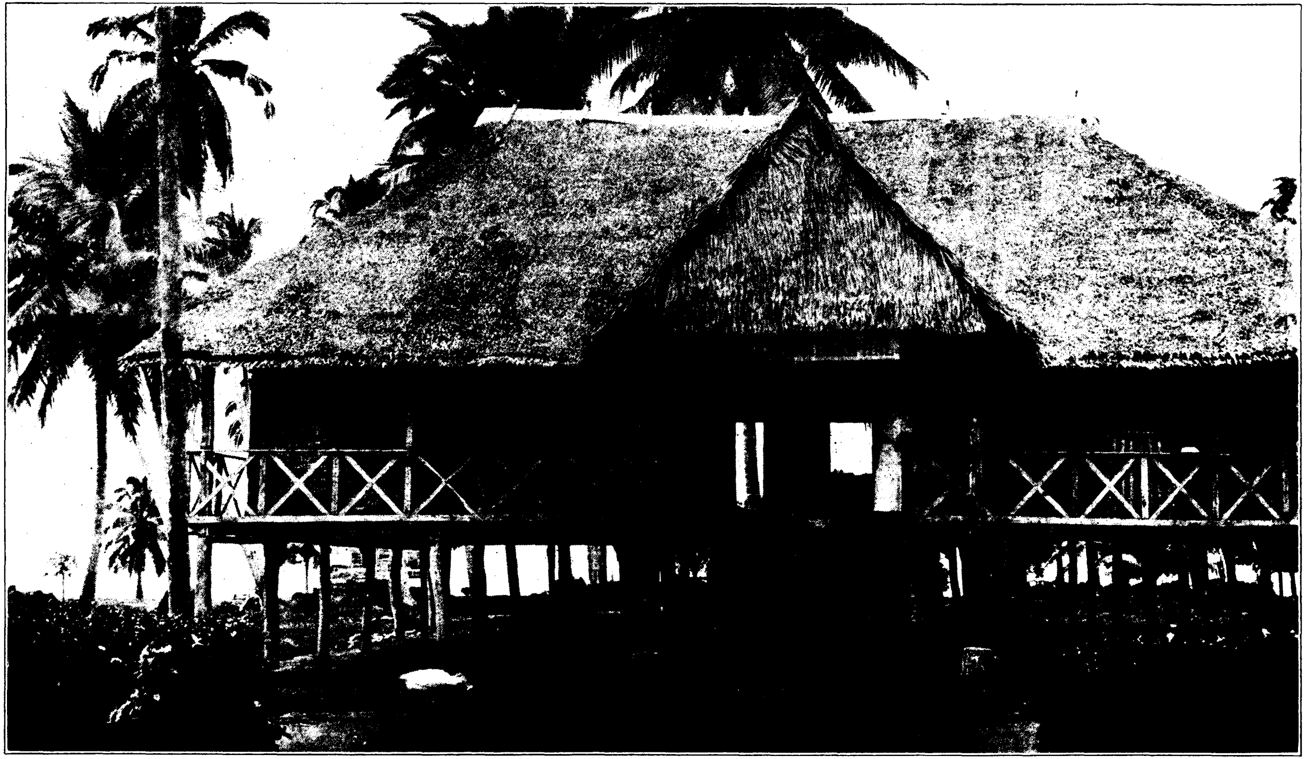
Cotabato Public Hospital, Cotabato, Cotabato.

Inaugurated November 5, 1917. Capacity: 40 patients or more. Provided with laboratory. Buildings: left, Nurses' Dormitory; right Physicians' Quarters; top, Constabulary barracks.



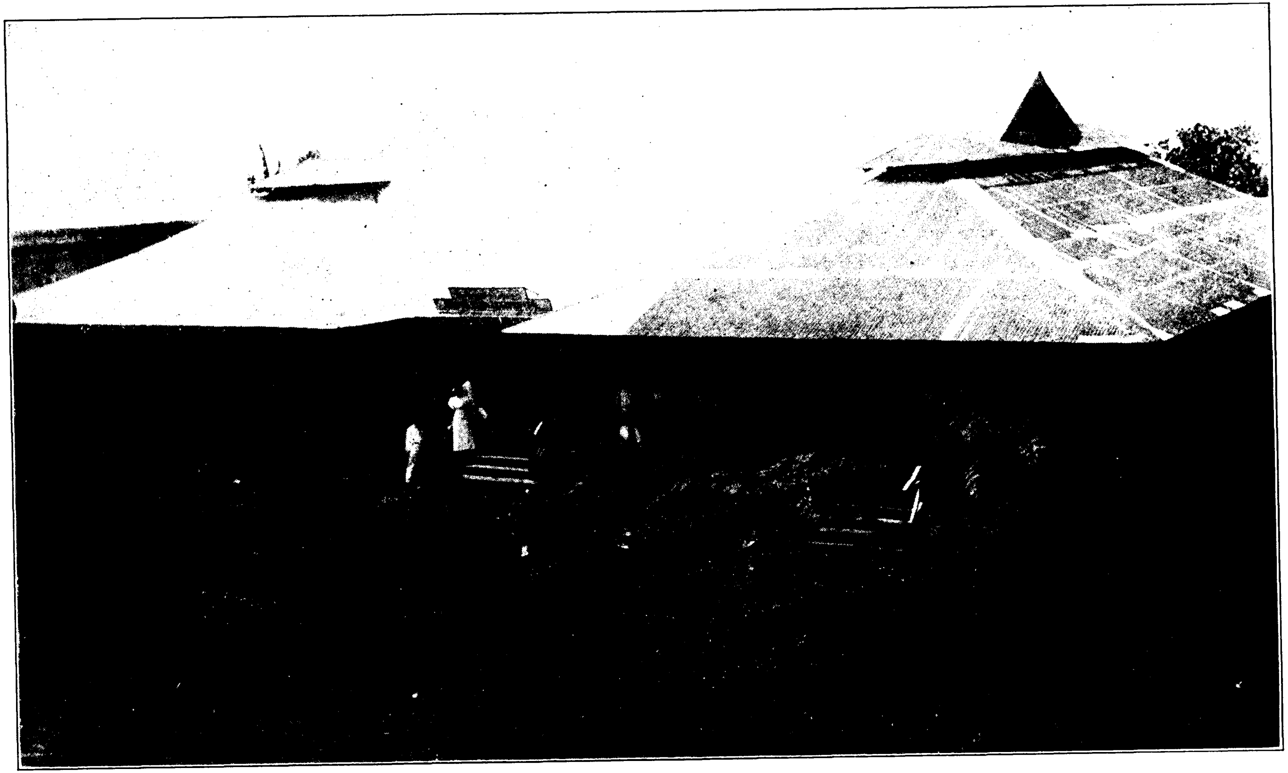
Davao Public Hospital, Davao, Davao.

Under construction and to be inaugurated in 1921. Capacity: 50 patients. Provided with laboratory. The hospital actually in operation is of mixed materials.



Mati Civil Hospital, Mati, Davao.

Capacity: 12 patients.

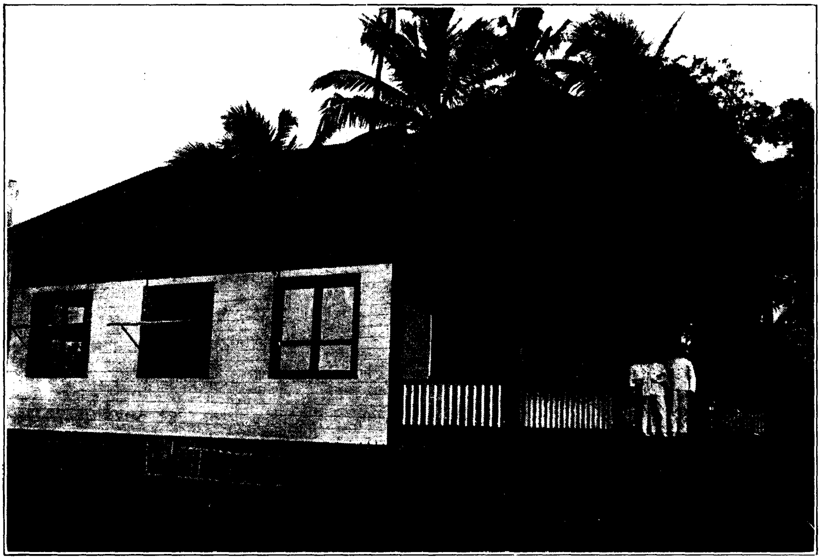


Former Lanao Public Hospital, Dansalan, Lanao.

Inaugurated, March 10, 1914. Capacity: 40 patients. Now assigned as Contagious Pavilion.

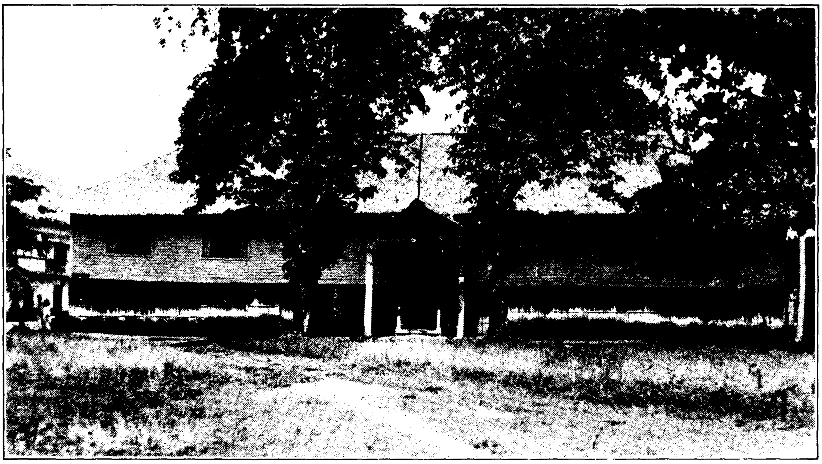
Present Lanao Public Hospital, Camp Keithley, Lanao.

Formerly Military Hospital. Reopened, May 1, 1919. Capacity: 48 patients or more. Provided with laboratory.



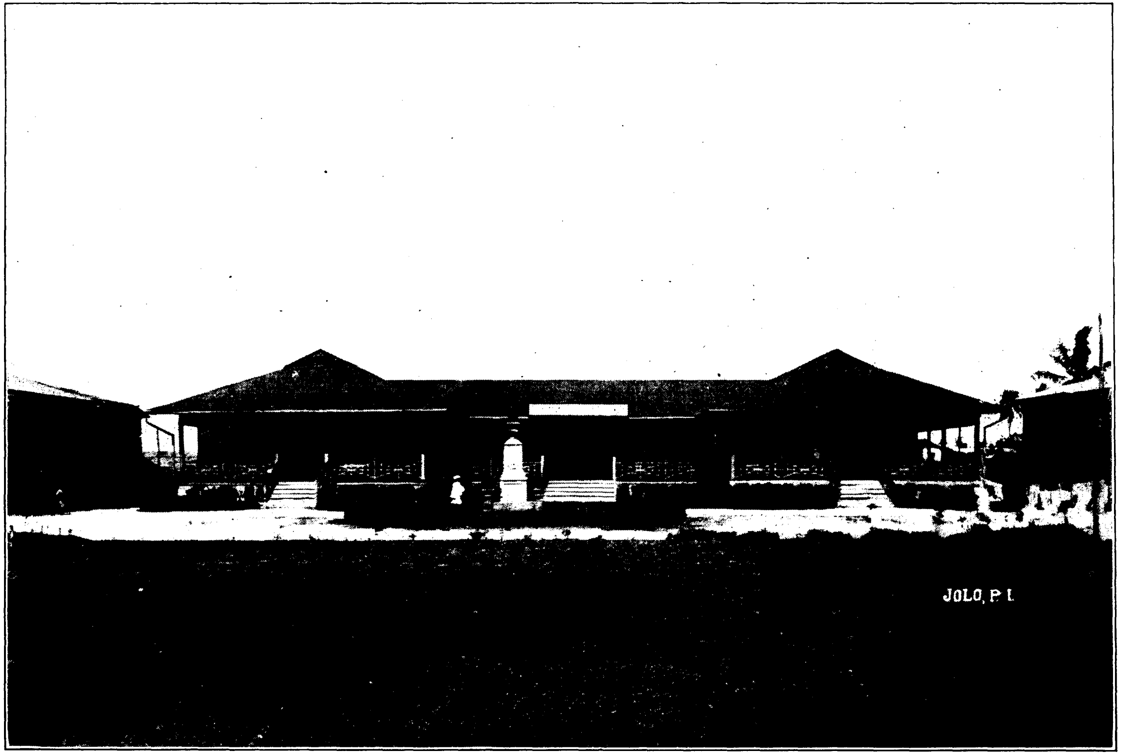
Oroquieta Public Hospital, Oroquieta, Misamis.

Established and maintained thru voluntary contributions. Opened in October, 1920.



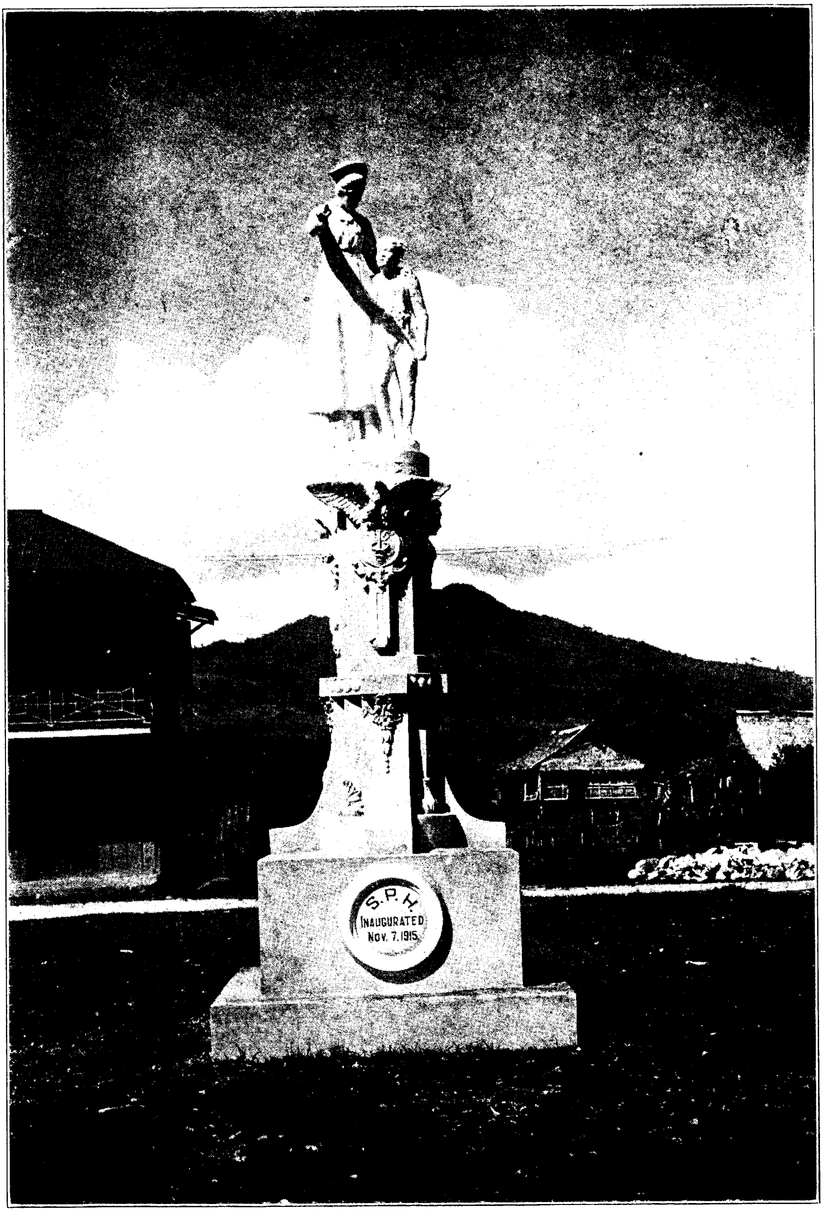
Misamis Public Hospital, Cagayan, Misamis.

Opened in October, 1917. Maintained by the provincial funds; provided with laboratory.



Sulu Public Hospital, Jolo, Sulu.

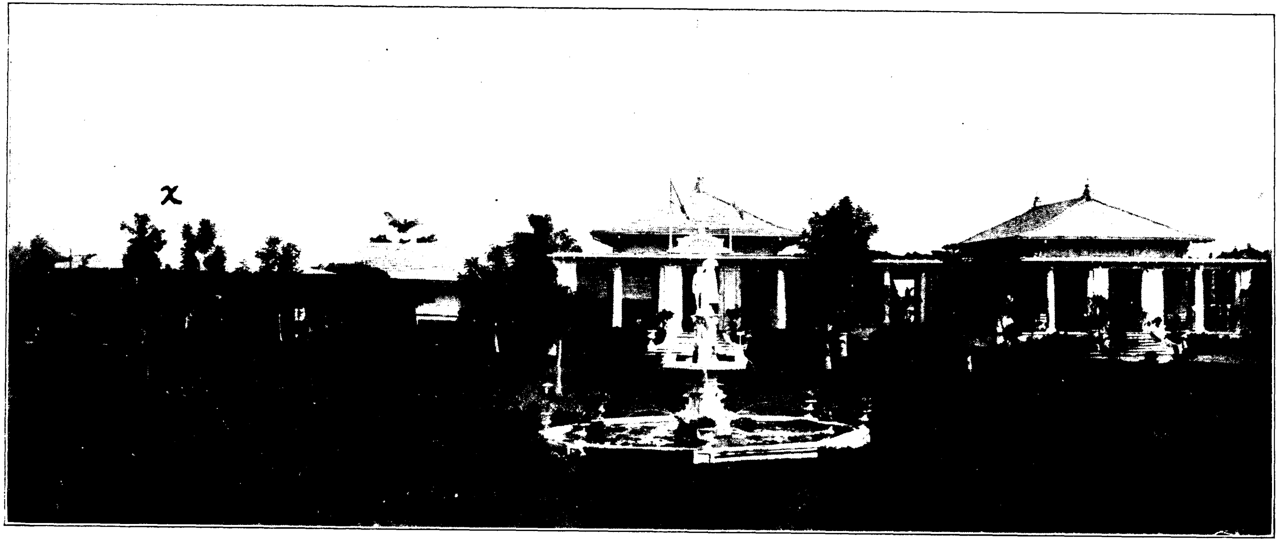
Inaugurated in November 7, 1915. Capacity: 40 patients. Provided with laboratory.



Sulu Public Hospital Monument, Symbolizing the mission of the Hospital.
Completed April, 1921.

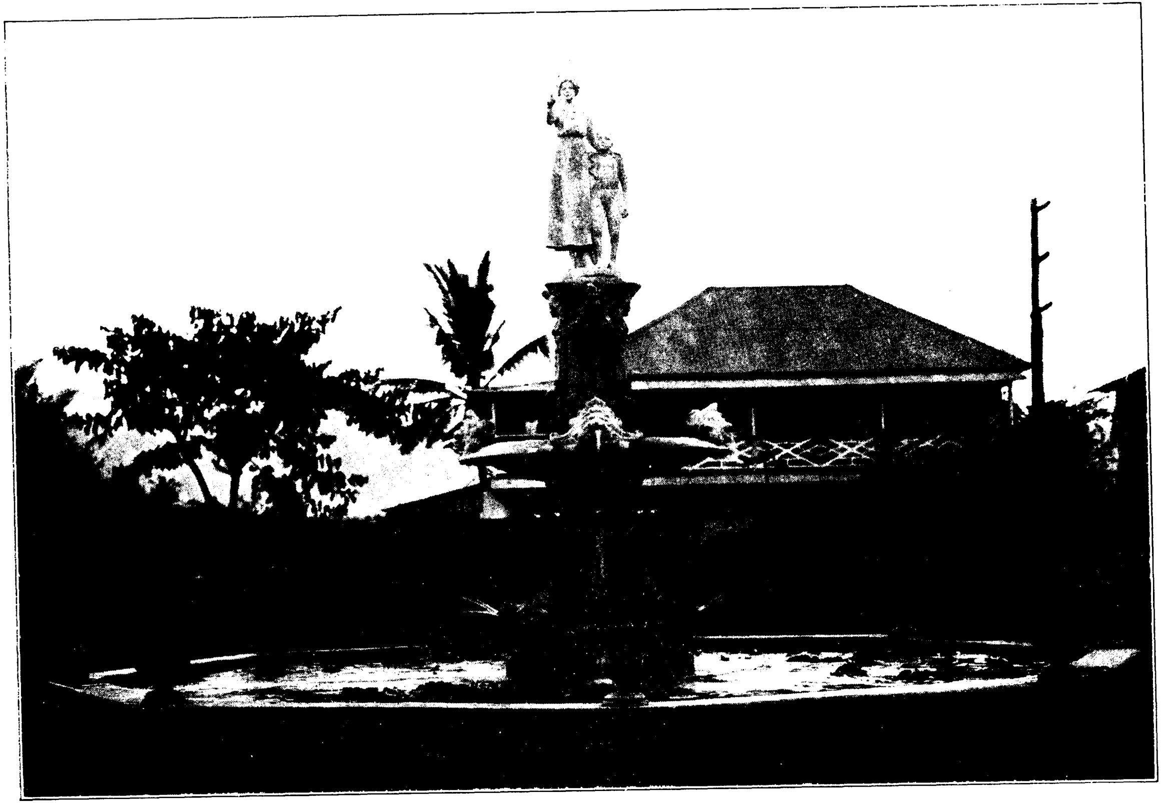
Rizal Memorial Hospital, Dapitan, Zamboanga.

Inaugurated in December, 1916. Capacity: 24 patients. Provided with laboratory. In this same building, Dr. Rizal was quartered during his first days of exile in Dapitan.



Zamboanga General Hospital, Zamboanga, Zamboanga.

First building, inaugurated in September 1, 1918; second building in April, 1920. Capacity: 40 patients. Contagious Pavilion: 20 patients. Provided with laboratory. Building X, is the Nurses' Dormitory.



Zamboanga General Hospital fountain, symbolizing the mission of the hospital. Completed April, 1921.

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